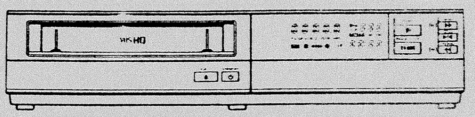
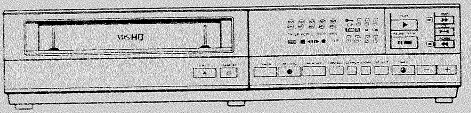
Video cassette recorder

Service
Service
Service

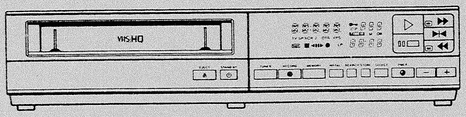
2SB01/02/03/06/08/09/10/13/16
2SB02/03/06/08
3SB02/03/08/09/10/13/16
20DV1/02/04/05/08/11
20DV2/13
3SB03/02/06/09 **30DV2**/04/08/11



3SB03



2SB01, 2SB02, (3SB02)



20DV1, 20DV2, (30DV2)

Service Manual

Type:

2SB01/20DV1	Standard remote control
2SB02/20DV2	LCD remote control
3SB02/30DV2	Perfect Still, LCD remote control
3SB03	TXT/VPT,LCD remote control

Remote Control:

2SB01 / 20DV1 (not for /02)	RT 102/201	4822 218 30558
2SB01/02, 20DV1/02	RT 102/101	4822 218 30545
2SB02 / 3SB02	RT 200/201	4822 218 30559
20DV2 / 30DV2	RT 200/201	4822 218 30559
20DV1/05	RT 101/204	4822 218 30561
3SB03/02	[illegible]	4822 218 3054[illegible]
3SB03/06/09	RT 201/201	4822 218 30563

GB For technical data reference is made to the Service Manual of VR201/202/203.
The present Manual only states the differences.

D Für technische Daten siehe Service Manual von VR201/202/203.
In dieser Dokumentation sind nur die Unterschiede enthalten.

NL Voor de technische gegevens wordt verwezen naar de Service Documentatie van de VR201/202/203.
Alleen de verschillen worden in deze documentatie gegeven.

F Pour ce qui est des caractéristiques techniques veuillez vous référer à la Documentation Service du VR201/202/203.
Cette documentation ne reprend que les différences.

I Per i dati tecnici veda il Manuale di Servizio di VR201/202/203.
La presente documentazione contene soltanto le differenze.

E Para los datos técnicos véase el manual de servicio de VR201/202/203.
La presente documentación contiene sólo las diferencias.

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten.Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Originalersatzteile zu verwenden.

Veiligheidbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen identiek aan de gespecificeerde worden toegepast.

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les piéces de rechange identiques à celles spécifiées.

Le prescrizioni di sicurezza richiedono che l'apparecchio sia ricondoto alle condizioni originali e che siano usati ricambi originali.

Las instrucciones de seguridad exigen que después de la reparación el aparato se encuentre en el estado original y que las piezas de repuesto sean idénticas a las originales.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

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Published by
Videq Service Department
9004-001

CS 28 238

Service Information

1990 - 06 - 11

VR 90-08

VR201/01/02/07/08/13/16/59
VR202/01/02/05/13
VR203/02/05/16
VR301/08
VR302/01/02/08/13
VR303/02/16
2SB01/02/03/08/09/10/13/16
2SB02/03/06
2SB03/16
3SB01/08
3SB02/03/08/09/10/16
3SB03/02R/06/09
20DV1/02/04/05/08/11/16
20DV2/13
30DV1/08
30DV2/04/11

Video recording

(D) **Änderungen auf Power Supply JSM.**
Für Geräte mit WD-Code 02 und höher.

(GB) **Changes on Power Supply JSM.**
Only for sets with production code WD 02 and higher.

(NL) **Veranderingen op Power Supply JSM.**
Deze apparaten zijn herkenbaar aan produtiecode WD 02 en hoger.

(F) **Modifications sur Power Supply JSM.**
Uniquement pour appareils ayant un code fabrication WD 02 et suivants.

(I) **Modifiche al Power Supply JSM.**
Soltanto per apparecchi con un codice di fabbrica WD a partire da 02.

(E) **Modificaciones al Power Supply JSM.**
Sólo para aparatos con un código de producción WD a partir de 02.

4822 726 14852

Power supply JSM

ONLY FOR WD-CODE 02 AND HIGHER

MISCELLANEOUS

5322 390 20011	Silicone grease
4822 265 30739	Connector 6 pin
4822 265 40721	Connector 10 pin
4822 492 63997	Spring
4822 502 11839	Screw
4822 265 10219	Mains connector

FUSES

1101	4822 253 30232	Fuse 2,0A 250V

CAPACITORS

2101	5322 121 44372	220 nF	250 V
2103	4822 122 33441	1 nF	125 V
2105	4822 122 33076	470 pF	400 V
2107	4822 122 33076	470 pF	400 V
2108	5322 122 34151	100 nF	250 V
2112	4822 124 41556	100 µF	385 V
2113	4822 122 33441	1 nF	125 V
2121	4822 122 33849	150 pF	50 V
2124	4822 122 33849	150 pF	50 V
2127	5322 121 42661	330 nF	63 V
2135	4822 122 33075	680 pF	1000 V
2136	4822 121 42198	68 nF	63 V
2202	4822 121 51248	27 nF	63 V
2203	4822 121 51248	27 nF	63 V
2204	5322 121 42386	100 nF	63 V
2207	4822 124 40739	680 µF	25 V
2208	4822 124 40739	680 µF	25 V
2210	4822 124 40739	680 µF	25 V
2217	4822 121 51295	47 µF	63 V
2236	4822 121 51297	39 nF	63 V
2238	4822 121 51248	27 nF	63 V
2244	4822 121 41776	330 nF	63 V
2254	4822 121 42686	15 nF	63 V
2260	4822 124 40199	680 µF	16 V
2261	4822 124 40199	680 µF	16 V

RESISTORS

3102	4822 110 42203	3.9 MΩ
3103	4822 110 42203	3.9 MΩ
3104	4822 116 52224	470 Ω
3106	4822 110 42196	2.2 MΩ
3109	4822 053 30338	3.3 Ω
3112	4822 111 30663	680 kΩ
3120	4822 116 52264	27 kΩ
3121	4822 116 80175	4.7 kΩ
3123	4822 116 52238	12 kΩ
3124	5322 116 60203	330 kΩ
3125	4822 116 52224	470 Ω
3126	4822 116 52175	100 Ω
3127	4822 116 52213	180 Ω
3131	5322 116 52191	33 Ω
3134	4822 116 52219	330 Ω
3140	4822 116 52182	15 Ω
3141	4822 116 52182	15 Ω
3201	4822 116 52176	10 Ω
3217	4822 116 52289	5.6 kΩ
3230	4822 116 80175	4.7 kΩ
3236	4822 116 52197	56 Ω
3238	4822 116 52207	1.2 kΩ
3240	4822 116 52804	560 Ω
3242	4822 050 18661	866 Ω
3243	4822 116 52175	100 Ω
3244	4822 116 52224	470 Ω
3246	4822 116 52211	150 Ω
3247	4822 116 52217	270 Ω
3248	4822 116 52217	270 Ω
3250	4822 116 52204	1 kΩ
3251	4822 116 52204	1 kΩ
3254	4822 116 52249	22 kΩ
3255	4822 116 52758	1 kΩ
3257	4822 050 12433	24.3 kΩ
3258	4822 050 11332	1.33 kΩ

COILS

5103	4822 157 53348
5114	4822 146 30881
5131	4822 157 53549
5134	4822 157 62551
5204	4822 157 53252
5207	4822 157 53006
5208	4822 157 53006
5215	4822 157 53006
5230	4822 157 53352
5263	4822 157 53528
5264	4822 157 53528

DIODES

6110	4822 130 80858	1N5062GP (GI)
6111	4822 130 80858	1N5062GP (GI)
6112	4822 130 80858	1N5062GP (GI)
6113	4822 130 80858	1N5062GP (GI)
6120	4822 130 80858	1N5062GP (GI)
6123	4822 130 30621	1N4148
6124	4822 130 30621	1N4148
6127	4822 130 31456	BZV85-C5V1
6129	4822 130 30621	1N4148
6136	4822 130 34193	BAX14
6137	4822 130 30621	1N4148
6138	4822 130 30621	1N4148
6207	4822 130 81516	MUR410 (MTLA)
6208	4822 130 81516	MUR410 (MTLA)
6215	4822 130 81272	MUR115 (MTLA)
6230	4822 130 81272	MUR115 (MTLA)
6235	4822 130 30621	1N4148
6236	4822 130 30621	1N4148
6237	4822 130 30621	1N4148
6241	4822 130 61219	BZX79-10V
6251	4822 130 30621	1N4148
6252	4822 130 30621	1N4148
6253	4822 130 34441	BZX79-B22
6260	4822 130 32715	SB340

TRANSISTORS

7121	4822 130 44196	BC548C
7124	4822 130 82034	CNX83A
7125	5322 130 60068	BC558C
7126	5322 130 44349	BC635
7135	4822 130 42679	BUT11AF
7243	4822 130 44568	BC557B
7246	4822 130 44503	BC547C
7253	4822 209 81397	TL431CLP (MOTA)

DIFFERENCES IN RESPECT TO BASIC MANUAL (page 4-1)

Type	Reference to basic manual	Flap Item 13	Control panel Item 20	Cover Item 22	Wordmark Item 168
		4822 443	4822 443	4822 443	4822 459
2SB01/02	VR201/02	63044	40917	30731	10899
2SB01/03	VR201/01	63044	40917	30731	10898
2SB01/06	VR201/02	63044	40917	30731	10907
2SB01/08	VR201/01	63044	40917	30731	10897
2SB01/09	VR201/02	63044	40917	30731	10895
2SB01/10	VR201/01	63044	40917	30731	10904
2SB01/13	VR201/01	63044	40917	30731	10894
2SB01/16	Vr201/01	63044	40917	30731	10896
2SB02/03	VR201/01	63044	63043	30731	10898
2SB02/06	VR201/02	63044	63043	30731	10907
2SB02/08	VR201/01	63044	63043	30731	10897
3SB02/03	VR302/01	63044	40919	30731	10898
3SB02/08	VR302/01	63044	40919	30731	10897
3SB02/09	VR302/02	63044	40919	30731	10895
3SB02/10	VR302/01	63044	40919	30731	10904
3SB02/13	VR302/01	63044	40919	30731	10894
3SB02/16	VR302/01	63044	40919	30731	10896
20DV1/02	VR201/02	63045	40918	30731	10899
20DV1/04	VR201/01	63045	40918	30731	10909
20DV1/05	VR202/05	63045	40918	30731	10941
20DV1/08	VR201/01	63045	40918	30731	10899
20DV1/11	VR201/01	63045	40918	30731	10912
20DV2/13	VR201/01	63045	40387	30731	10899
30DV2/04	VR302/01	63046	40921	30731	10909
30DV2/08	VR302/01	63046	40921	30731	10899
30DV2/11	VR302/01	63046	40921	30731	10912

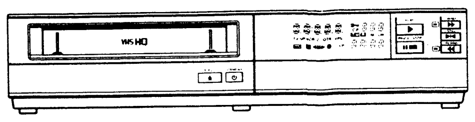
SURVEY OF SET's AND CBA's

		2SB01/02	2SB01/03	2SB01/06	2SB01/08	2SB01/09	2SB01/10	2SB01/13	2SB01/16	2SB02/03	2SB02/06	2SB02/08	3SB02/03	3SB02/08	3SB02/09	3SB02/10	3SB02/13	2SB02/16	20DV1/02	20DV1/04	20DV1/05	20DV1/08	20DV1/11	20DV2/13	30DV2/04	30DV2/08	30DV2/11
Power Supply	JSM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Operating Panel	JDC-D	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Familyboard	JFB1/01		x		x		x	x	x	x		x	x	x		x	x	x		x		x	x	x	x	x	x
Familyboard	JFB1/02	x		x		x					x				x				x								
Familyboard	JFB1/05																				x						
Signal Panel	PMS	x		x		x					x				x				x								
Signal Panel	PS		x		x		x	x	x	x		x	x	x		x	x	x		x	x	x	x	x	x	x	x
VPS Panel	VPS	x		x		x					x				x				x								
Headamplifier	HVC2/0	x	x	x	x	x	x	x	x	x	x	x							x	x	x	x	x	x			
Headamplifier	HVC3/0												x	x	x	x	x	x							x	x	x
Tape Deck	JDM2/0	x	x	x	x	x	x	x	x	x	x	x							x	x	x	x	x	x			
Tape Deck	JDM3/0												x	x	x	x	x	x							x	x	x

Video cassette recorder

3SB03/02/06/09

Service
Service
Service


3SB03

Service Manual

Type:
3SB03 TXT/VPT,LCD remote control

Remote Control:		
3SB03/02	RT 201/101	4822 218 30547
3SB03/06/09	RT 201/201	4822 218 30563

D Für technische Daten siehe Service Manual von VR201/202/203.
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La presente documentazione contene soltanto le differenze.

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Le prescrizioni di sicurezza richiedono che l'apparecchio sia ricondoto alle condizioni originali e che siano usati ricambi originali.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

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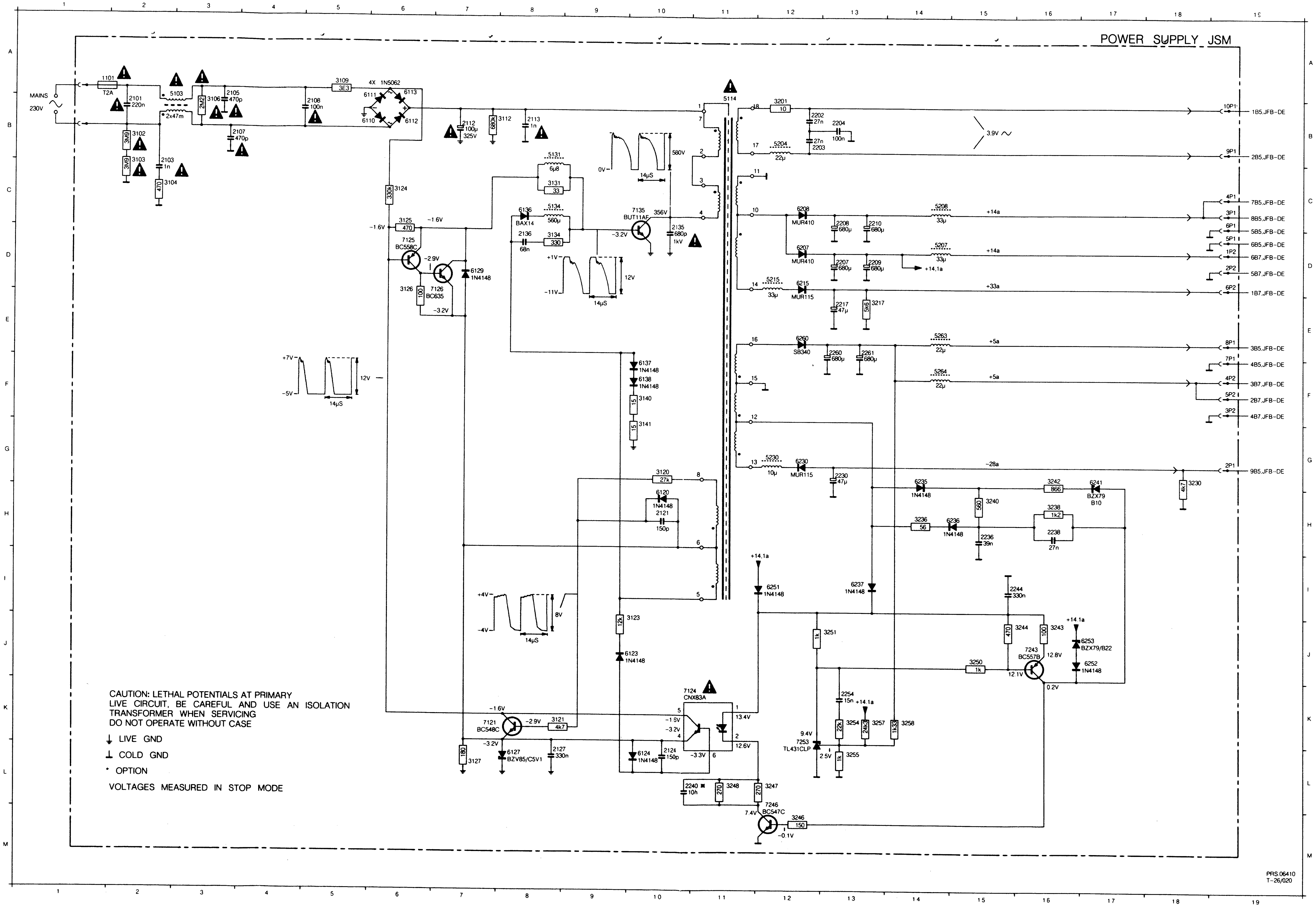
Video Service Department
94008-001

CS 31 428

POWER SUPPLY JSM (ONLY FOR WD-CODE 02 AND HIGHER)


POWER SUPPLY JSM
MAINS
230V
1101
T2A
2101
220n
5103
2x47m
2M2
3106
2105
470p
2107
470p
3102
3M9
3103
3M9
2103
1n
3104
470
3109
3E3
4X 1N5062
6111
6113
6110
6112
2108
100n
2112
100μ
325V
3112
680k
2113
1n
3124
330k
3125
470
-1.6V
7125
BC558C
-2.9V
7126
BC635
3126
100
-3.2V
6129
1N4148
5131
6μ8
3131
33
6136
BAX14
5134
560μ
2136
68n
3134
330
7135
BUT11AF
356V
2135
680p
1kV
580V
0V
14μS
+1V
-11V
12V
+7V
-5V
6137
1N4148
6138
1N4148
3140
15
3141
15
3120
27k
6120
1N4148
2121
150p
+4V
-4V
8V
3123
12k
6123
1N4148
5114
3201
10
2202
27n
2204
100n
2203
27n
5204
22μ
3.9V ∿
6208
MUR410
2208
680μ
2210
680μ
5208
33μ
+14a
6207
MUR410
2207
680μ
2209
680μ
5207
33μ
+14,1a
5215
33μ
6215
MUR115
2217
47μ
3217
5k6
+33a
6260
SB340
2260
680μ
2261
680μ
5263
22μ
+5a
5264
22μ
5230
10μ
6230
MUR115
2230
47μ
-28a
3230
4k7
10P1
1B5.JFB-DE
9P1
2B5.JFB-DE
4P1
7B5.JFB-DE
3P1
8B5.JFB-DE
6P1
5B5.JFB-DE
5P1
6B5.JFB-DE
1P2
6B7.JFB-DE
2P2
5B7.JFB-DE
6P2
1B7.JFB-DE
8P1
3B5.JFB-DE
7P1
4B5.JFB-DE
4P2
3B7.JFB-DE
5P2
2B7.JFB-DE
3P2
4B7.JFB-DE
2P1
9B5.JFB-DE
6235
1N4148
3242
866
6241
BZX79
B10
3240
560
3238
1k2
3236
56
6236
1N4148
2236
39n
2238
27n
6237
1N4148
+14.1a
6251
1N4148
2244
330n
3251
1k
3244
470
3243
100
6253
BZX79/B22
7243
BC557B
12.8V
6252
1N4148
3250
1k
12.1V
0.2V
2254
15n
3254
22k
3257
24k3
3258
1k33
9.4V
7253
TL431CLP
2.5V
3255
1k
7124
CNX83A
13.4V
12.6V
-1.5V
-3.3V
7121
BC548C
3121
4k7
3127
180
6127
BZV85/C5V1
2127
330n
6124
1N4148
2124
150p
2240
10n
3248
270
3247
270
7246
BC547C
7.4V
3246
150
-0.1V
PRS.06410
T-26/020

CAUTION: LETHAL POTENTIALS AT PRIMARY LIVE CIRCUIT, BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING DO NOT OPERATE WITHOUT CASE

⏚ LIVE GND

⊥ COLD GND

* OPTION

VOLTAGES MEASURED IN STOP MODE

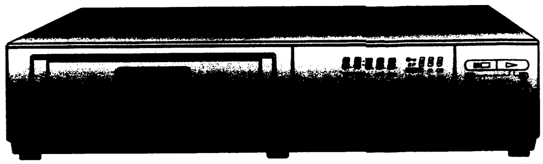
1101	A1
2101	B2
2103	C2
2105	B3
2107	B3
2108	B5
2112	B7
2113	B8
2121	H10
2124	L10
2127	L8
2135	D10
2136	D8
2202	B12
2203	B12
2204	B13
2207	D13
2208	C13
2209	D13
2210	C13
2217	E13
2230	G13
2236	H15
2238	H16
2240	L10
2244	I 15
2254	K13
2260	E13
2261	E13
3102	B2
3103	C2
3104	C2
3106	B3
3109	A5
3112	B7
3120	G10
3121	K8
3123	J10
3124	C6
3125	C6
3126	E6
3127	L7
3131	C8
3134	D8
3140	F10
3141	G10
3201	B12
3217	E13
3230	G18
3236	H14
3238	H16
3240	H15
3242	G16
3243	J16
3244	J16
3246	M12
3247	L12
3248	L11
3250	J15
3251	J13
3254	K13
3255	L13
3257	K13
3258	K14
5103	B3
5114	B11
5131	B8
5134	C8
5204	B12
5207	D14
5208	C14
5215	D12
5230	G12
5263	E14
5264	F14
6110	B6
6111	B6
6112	B6
6113	A6
6120	H10
6123	J9
6124	L10
6127	L8
6129	D7
6136	C8
6137	F10
6138	F10
6207	D12
6208	C12
6215	D12
6230	G12
6235	G14
6236	H15
6237	I 13
6241	G17
6251	I 12
6252	J17
6253	J17
6260	E12
7121	K7
7124	K10
7125	D6
7126	D7
7135	C10
7243	J16
7246	L12
7253	K12

SERV. 357

Video Cassette Recorder

VR201/01/02/07/08/13/59
VR202/01/02/05/08/13
VR203/02/05/16
VR302/01/02/08/13
VR303/02/16

Service
Service
Service


45 334 A11

Service Manual

CONTENTS

Chapter
1 Table of contents per page
Technical data
Safety instructions
Front/rear view of the video recorder
Description of the controls and connections
Supplementary service information

2 Error diagnosis system
Servicing of SMD's
Survey of symbols used
Block diagram
Wiring diagram
Survey PCB location
Disassembly of the set

3 Survey of abbreviations used
PCB layout
Circuit diagrams
Electrical adjustment instructions

4 Cabinet exploded view
Parts lists set and PCB's
Exploded view of the tapedeck
Partslist tape deck

Survey of types :

VR201	Standard remote control
VR202	LCD remote control
VR203	VPT teletextprogramming
VR302	Perfect Still, LCD remote control
VR303	Perfect Still, VPT teletextprogramming

Survey of versions :

/01	PAL B/G
/02	PAL/SECAM B/G (with VPS)
/05	PAL I U.K.
/07	PAL I Ireland
/08	PAL B/G Italy
/13	PAL B/G Nordic
/16	PAL B/G Spain
/59	PAL/SECAM B/G, D/K

Survey of remote controls :

VR201	RT102/101	4822 218 30545
VR202	RT200/104	4822 218 30546
VR203	RT201/101	4822 218 30547
VR302	RT200/104	4822 218 30546
VR303	RT201/101	4822 218 30547

Survey of tapedecks :

VR201, VR202, VR203:	JDM2/0	(2 heads)
VR302, VR303:	JDM3/0	(3 heads)

Tape deck documentation:
IDM 4822 726 14711
(incl. Service Information VR90-05GB)

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

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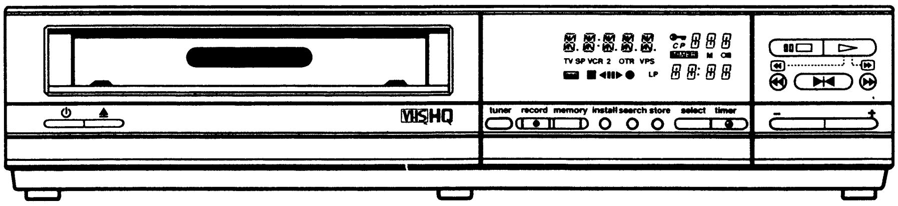
CS 28 853 GB

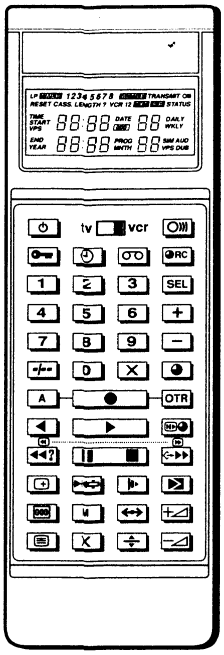
DIFFERENCES IN RESPECT TO BASIC MANUAL (page 4-1)					
Type	Reference to basic manual	Flap Item 13	Control panel Item 20	Cover Item 22	Wordmark Item 168
		4822 443	4822 443	4822 443	4822 459
3SB03/02	VR303/01	63044	40964	30731	10899
3SB03/06	VR303/01	63044	40964	30731	10907
3SB03/09	VR303/01	63044	40964	30731	10895

SURVEY OF SET's AND CBA's	
	3SB03 /02 /06 /09
Power supply	JSM
Operating Panel	JDC-D
Familyboard	JFB3/02
Signal Panel	PMS
TXT-Panel	TXT
Headamplifier	HVC3/0
Tape Deck	JDM3/0



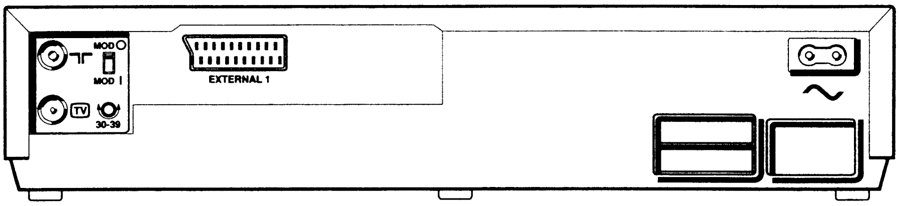
VHS HQ
tuner
record
memory
install
search
store
select
timer
TV SP VCR 2 OTR VPS
LP

45 335 A11



tv
vcr
SEL
1
2
3
4
5
6
7
8
9
0
+
−
-/--
A
OTR
RC

45 336 A11



MOD
MOD I
TV
30-39
EXTERNAL 1

45 337 A11

Symbols on the video recorder	Symbols on the remote control	Function
❚❚ ■	❚❚ ■	Pause/Stop
▶	▶	Play
◀◀ ⏪	◀◀ ⏪	Rewind / Picture search backward
▶❙◀	▶❙◀	Still picture, frame advance
▶▶ ⏩	▶▶ ⏩	Wind / Picture search forward
−	−	Down
+	+	Up
●	●	Record (on the remote control **A and** ● simultaneously)
SELECT	**SEL**	Function select
◕	◕	TIMER programming
⏻	⏻	Switch off (Stand by)
INSTALL		Installation
STORE		Store a TV channel
SEARCH		Search for a TV channel
⏏		Cassette eject
TUNER		Tuner mode
MEMORY	**M**	Tape counter memory
0-9	**0-9**	Digit buttons
×	×	Reset
-/--	-/--	One or more digits entry
OTR	**OTR**	One Touch Recording (instant recording), on the remote control **A and OTR** simultaneously

TABLE OF CONTENTS

CHAPTER 1

1-1 Frontpage
1-2 Table of contents
1-3 Technical specifications
1-4 Safety instructions
1-5 Front/rear view of the set
Description of controls and terminal sockets
1-6 Description of the system of publication of changes

CHAPTER 2

2-1 Error diagnosis system
2-2 Error diagnosis system
2-3 Error diagnosis system
2-4 Servicing SMD's
2-5 Survey of symbols used
2-6 Survey of symbols used
2-7 Block diagram
2-8 Wiring diagram
Location drawing of the PCBs
2-9 Disassembly of the set
2-10 Servicing position of the PCBs

CHAPTER 3

3-1 Survey of abbreviations used
3-2 JSM PCB drawing
3-3 JSM circuit diagram
3-4 JDCB PCB drawing
JDCD PCB drawing
3-5 JDCB,JDCD circuit diagram
JDCB,JDCD adjustments
3-6 PMS,PS PCB drawing
3-7 PMS,PS circuit diagram
3-8 PMS,PS adjustments
3-9 PMS,PS adjustments
3-10 HVC PCB drawing
3-11 HVC circuit diagram
3-12 VPS PCB drawing
VPS circuit diagram
3-13 -
3-14 JFB PCB drawing
3-15 JFB-I/O circuit diagram
3-16 JFB-FE and -AUD PCB drawing
JFB-FE circuit diagram
3-17 JFB-AUD circuit diagram
3-18 JFB-PCB drawing
3-19 JFB-DE circuit diagram
3-20 JFB adjustments
3-21 JFB adjustments
3-22 JFB adjustments
3-23 JFB adjustments
3-24 JTXT PCB drawing
3-25 JTXT circuit diagram

CHAPTER 4

4-1 Parts list of the cabinet parts
Exploded view of cabinet
4-2 JSM parts list
4-3 JDCB,JDCD parts list
4-4 PMS,PS parts list
4-5 PMS,PS parts list
4-6 PMS,PS parts list
4-7 HVC parts list
VPS parts list
4-8 JFB parts list
4-9 JFB parts list
4-10 JFB parts list
4-11 JFB parts list
4-12 JTXT parts list
4-13 Exploded view of the tapedeck
4-14 Parts list tape deck
4-15 Remarks

Survey of sets and CBA's

	Power supply	Operating pannel	Signal panel		Headamplifier		VPS panel	Familyboard			-I/O Input/Output	-FE Front-end	-AUD Linear audio	-DE Servo		Teletext panel	Tapedeck	
	JSM	JDCB	PMS	PS	HVC2/0	HVC3/0	VPS	JFB1/01	JFB1/02	JFB1/05OSD	JFB1/07	JFB1/59	JFB3/01	JFB3/02	JFB3/05	JTXT	JDM2/0	JDM3/0
VR201/01	•	•		•	•			•									•	
/02	•	•	•		•		•		•								•	
/07	•	•		•	•						•						•	
/08	•	•		•	•			•									•	
/13	•	•		•	•			•									•	
/59	•	•	•		•							•					•	
VR202/01	•	•		•	•			•									•	
/02	•	•	•		•		•		•								•	
/05	•	•		•	•					•							•	
/08	•	•		•	•			•									•	
/13	•	•		•	•			•									•	
VR203/02	•	•	•		•		•							•		•	•	
/05	•	•		•	•										•	•	•	
/16	•	•		•	•								•			•	•	
VR302/01	•	•		•		•		•										•
/02	•	•	•			•	•		•									•
/08	•	•		•		•		•										•
/13	•	•		•		•		•										•
VR303/02	•	•	•			•	•							•		•		•
/16	•	•		•		•							•			•		•

TECHNICAL DATA	TECHNISCHE DATEN	CARACTERISTIQUES	
Mains voltage	Netzspannung	Tension secteur	220 - 240 V
Mains frequency	Netzfrequenz	Fréquence	45 - 65 Hz
Power consumption	Leistungsaufnahme	Puissance absorbée	16 W
Power consumption	Leistungsaufnahme	Puissance absorbée	9 W (stand by)
Ambient temperature	Raumtemperatur	Température ambiante	+10° - +35°
Relative humidity	Relative Luftfeuchte	Humidité relative	20 - 80%
Dimensions	Abmessungen	Encombrement	420 x 89 x 350 mm
Weight	Gewicht	Poids	± 6,5 kg
Fast forward/rewind time	Vor-/Rückspulzeit	Temps (re-)bobinage	typ. 240s (E180 cass.)
Position of use	Betriebslage	Position d'emploi	horizontally, max 15°
Video-resolution	Video-Auflösung	Puissance absorbée	>240 lines
Audio	Audio	Audio	80Hz - 10kHz (<8dB)

TECHNISCHE GEGEVENS	DATOS TECNICOS	DATI TECNICI	
Netspanning	Tensión de red	Tensione di alimentazione	220 - 240 V
Netfrequentie	Frecuencia de red	Frequenza di rete	45 - 65 Hz
Opgenomen vermogen	Consuma de potencia	Potenza assorbita	16 W
Opgenomen vermogen	Consuma de potencia	Potenza assorbita	9 W (stand by)
Omgevingstemperatuur	Temperatura ambiente	Temperatura ambiente	+10° - +35°
Relatieve vochtigheid	Humedad relativa	Umiditá relativa	20 - 80%
Afmetingen	Dimensiones	Dimensioni	420 x 89 x 350 mm
Gewicht	Peso	Peso	± 6,5 kg
Vooruit/terugspoeltijd	tiempo de (re-)bobinado	Tempo di (ri-)avvolgimento	typ. 240s (E180 cass.)
Gebruikspositie	Posición de uso	Posizione di funzionamento	horizontally, max 15°
Oplossend vermogen	Resolución video	Risoluzione video	>240 lines
Audio	Audio	Audio	80Hz - 10kHz (<8dB)

SAFETY INSTRUCTIONS

- Safety regulations demand that the set be restored to its original condition and that components identical with the original types be used.
  Safety components are marked by the symbol ⚠
- All ICs and many other semi-conductors are susceptible to electrostatic discharges(ESD). Careless handling during repair may reduce life drastically. When repairing, make sure that you are conneted with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools on the same potential.
- A set to be repaired should always be connected to the mains via a suitable isolating transformer.
- Never replace any modules or any other parts while the set is switched on.
- Use plastic instead of metal alignment tools. This in order to prelude short-circuit or to prevent a specific circuit from being rendered unstable.

REMARKS

- The direct voltages and oscillograms ought to be measured relative to the set mass.
- The direct voltages and oscillograms mentioned in the diagrams ought to be measured with a colour bar signal and the picture carrier at 503.25 MHz (C25).
- The oscillograms and direct voltages have been measured in RECORD or PLAY mode.
- The semiconductors, which are mentioned in the circuit diagram and in the parts lists, are fully exchangeable per position with the semiconductors in the set, irrespective of the type designation of these semiconductors.

SICHERHEITSHINWEISE

- Die Sicherheitsvorschriften erfordern es, dass sich das Gerät nach der Reparatur in seinem originalen Zustand befindet und dass die zur Reparatur benutzten Ersatzteile mit den Original-Ersatzteilen identisch sind.
  Sicherheits-Bauteile sind mit der Markierung versehen ⚠
- Alle IC's und Halbleiter sind empfindlich gegen elektrostatische Entladungen (ESD). Unvorschriftmässige Behandlung von Halbleitern im Reparaturfall, kann zur Zerstörung dieser Bauteile oder zu einer drastischen Reduzierung der Lebensdauer führen. Sorgen Sie dafür, dass Sie sich im Reparaturfal über ein Armband mit Widerstand auf dem gleichen Potential, wie die Masse des Gerätes befinden. Alle Bauteile, Werkzeuge und Hilfsmittel sind auf das gleiche Potential zu legen.
- Ein zu reparierendes Gerät ist immer über einen Trenntransformator an die Netzspannung anzuschliessen.
- Bei eingeschaltetem Gerät dürfen keine Modulen oder sonstige Einzelteile ausgetauscht werden.
- Zum Abgleich sind ausschliesslich Kunststoffwerkzeuge zu benutzen (keine Metallwerkzeuge verwenden). Dadurch wird vermieden, dass ein Kurzschluss entstehen kann oder eine Schaltung instabil wird.

ANMERKUNGEN

- Die Gleichspannung und Oszillogramme sind gegen Gerätemasse zu messen.
- Die Gleichspannungen und Oszillogramme angeführt in den Schaltbildern sollen unter folgenden Bedingungen gemessen werden: Farbbalkensignal, Bildträger auf 503.25 MHz (C25)
- Die Oszillogramme und Gleichspannungen sind in RECORD oder PLAY gemessen.
- Die in den Stücklisten aufgeführten Bauteile sind positionsweise voll auswechselbar gegen die Bauteile in dem Gerät, ungeachtet der etwaigen Typenbezeichungen.

AVERTISSEMENTS

- Les normes de sécurité exigent qu'aprés réparation l'appareil soit remis dans son état d'origine et que soient utilisées les piéces de rechange identiques à celles spécifiées.
  Les composants de sécurité sont marqués ⚠
- Tout les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharger statiques (ESD). Leur longévité pourrait étre considérablement écourté par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations s'assurer de bien étre relié au méme potential que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.
- Toujours alimenter un appareil à réparer à travers un transfo d'isolement.
- Ne jamais remplacer les modules ni d'autres composants quand l'appareil est sous tension.
- Pour l'ajustage, utiliser des outils en plastique au lieu d'instruments métalliques. Ceci afin d'éviter les court-circuits et exclure l'instabilité dans certains circuits.

OBSERVATIONS

- La mésure des tensions continues et des oscillogrammes doit se faire par rapport à la terre de l'appareil.
- La mésure des tensions continues et des oscillogrammes figurant sur le schéma doit se faire dans un signal de barre couleur porteuse image sur 503.25 MHz (C25).
- Les oscillogrammes et tension sont mésurées en mode RECORD ou PLAY.
- Les semi-conducteurs indiqués dans le schéma de principe et à la liste des compostants, sont interchangeables par repère sur ce chassis avec les semi-conducteurs de l'appareil quelle que soit la désignation de type donnée sur ces semi-conducteurs.

VEILIGHEIDSINSTRUCTIES

- Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, indentiek aan de oorspronkelijke, worden toegepast.
  De veiligheidsonderdelen zijn aangeduid met het symbool ⚠
- Alle IC's en vele andere halfgeleiders zijn gevoelig voor elektrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor, dat U tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.
- Sluit een apparaat dat gerepareerd wordt altijd via een scheidingstransformator aan op de netspanning.
- Verwissel nooit modules of andere onderdelen terwijl het apparaat is ingeschakeld.
- Gebruik voor het afregelen plastic i.p.v metalen gereedschap. Dit om mogelijke kortsluiting te voorkomen of een bepaalde schakeling instabiel te maken.

OPMERKINGEN

- De gelijksspanningen en oscillogrammen dienen gemeten te worden ten opzichte van de apparaat aarde.
- De gelijksspanningen en oscillogrammen vermeld in de schema's dienen gemeten te worden met een kleurbalkensignaal beelddraaggolf op 503.25 MHz (C25).
- De oscillogrammen en gelijksspanningen zijn in RECORD of PLAY mode gemeten.
- De halfgeleiders, die in het pricipeschema en in de stuklijsten, zijn vermeld, zijn per positie volledig uitwisselbaar met de halfgeleiders in het apparaat, ongeacht de typeaanduiding op deze halfgeleiders.

AVISOS

- Las instrucciones de seguridad exigen que después de la reparación el aparato se encuentre en el estado original y que las piezas de repuesto, utilizadas para la reparación, sean idénticas a las originales.
  Los componentes de seguridad estan marcados con ⚠
- Todos los IC y semiconductores son sensibles a descargas electrostáticas (ESD). Un tratamiento no conforme a las instrucciones de semiconductores en caso de reparación, podría llevar a la destrucción de estos componentes, o a una reducción drástica de la duración. Tenga cuidado de que, en caso de reparación, estar al mismo potencial que la masa del aparato, por una pulsera con resistencia. Ponga todos los componentes, herramientas y recursos al mismo potencial.
- Para reparar un aparato hay que conectarlo siempre a la alimentación a traves de un transformador de aislamiento.
- Cuando un aparato está en marcha no pueden ser cambiados módulos u otras piezas de repuesto.
- Para los ajustes hay que utilizar exclusivamente herramientas de plástico (nunca herramientas metálicas). Así se evitaran cortocircuitos y circuitos inestables.

NOTAS

- Hay que medir las tensiones continuas y los oscilogramas contra la masa del aparato.
- Las tensiones continuas y los oscilogramas mencionados en los esquemas tienen que ser medidos de manera siguiente: señal barra de color portadora de imagen en 503.25MHz (C25)
- Los oscilogramas y las tensiones continuas son medidas en "RECORD" y "PLAYBACK"
- Los componentes mencionados en las listas se los puede cambiar por los componentes en el aparato, a pesar de eventuales designaciones de tipos.

AVVERTIMENTI

- Le prescrizioni di sicurezza richiedono che l'apparecchio sia ricondotto alle condizioni originali e che siano usati ricambi originali.
  Componenti di sicurezza sono marcati con ⚠
- Tutti gli IC e semiconduttori sono sensibili a scariche elettrostatiche (ESD). Noncuranze durante la riparazione di semiconduttori possono danneggiarli o condurre ad una riduzione drastica della durata. Durante la riparazione assicurarsi di essere collegati allo stesso potenziale attraverso un bracciale di protezione contro scariche elettrostatiche. Inoltre tenere anche tutti i componenti e gli attrezzi a questo potenziale.
- Apparecchi da riparare bisogna collegarli sempre via un trasformatore isolante (separatore) alla tensione normale.
- Non scambiare moduli o altri componenti quando l'apparecchio è in funzione.
- Per l'accordo usare soltanto attrezzi di plastica (non usare attrezzi metallici). Cosí si evitano cortocircuiti e collegamenti instabili.

OSSERVAZIONI

- Misurare le tensioni continue e gli oscillogrammi riferendosi alla massa dell'apparecchio.
- Le tensioni continue e gli oscillogrammi indicati negli schemi di collegamento devono essere misurati secondo le condizioni seguenti: segnale barre colore, portante dell'immagine su: 503.25 MHz (C25).
- Gli oscillogrammi e le tensioni continue sono misurati in RECORD o PLAYBACK.
- I componenti indicati nelle liste sono intercambiabili con quelli nell'apparecchio nonostante l'eventuale denominazione di modelli.

Symbols on the video recorder	Symbols on the remote control	Function
	TV/VCR	TV/VCR selector
	O)))	Transmit
	◑RC	TIMER programming via remote control
	ꝏ	Tape length selector
	⊶	Child lock
	OTR	One Touch Recording (instant recording) on the remote control **A and OTR** simultaneously
	◀	Play reverse
	[N▶]	Fast motion
	⊞	OSD button (On Screen Display)
	|▸	Slow motion
	▶	Auto tracking
	[000]	Time used, time left or tape counter selector
	◷	Set clock on the remote control
	?	Teletext reveal/conceal information
	⏚	Teletext page hold
	▤	Teletext on /off
	X yellow	Cancel Teletext function (temporary)
	÷	Teletext enlarge text top/bottom
	[N▶]◕	Teletext-subcode

Rear side of the video recorder:

ᒣᒥ	Aerial input socket
[TV]	Aerial output socket
+◎–	Channel control
EXTERNAL 1	AV-Euroconnector 1 (21-pin)
∿	Mains socket
MOD I/O	MOD selector (modulator on = I)

Extra functions if TV/VCR selector is in the 'TV'position (only for specially equipped TV sets):

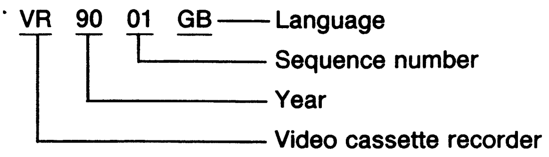
▶	Personal preference button
+◿	TV volume up (independent of the position of TV/VCR)
−◿	TV volume down (independent of the position of TV/VCR)

Note : On some TV sets (with TXT) it is also possible to use the yellow TXT-buttons.

- **Description of the system used for publishing modification data and supplements to the Service Manual.**

All modification data and supplements to the Service Manual are published by means of Service Information bulletins.
Each Service information has a number, for example:

Example


VR 90 01 GB
Language
Sequence number
Year
Video cassette recorder

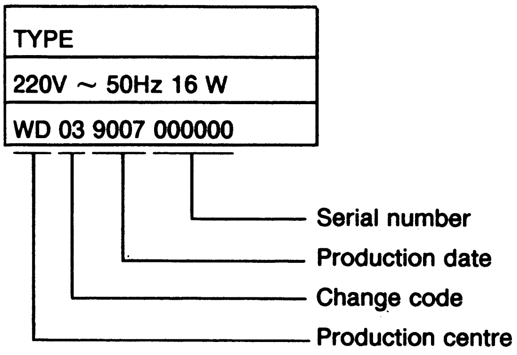
A Service Information bulletin consists of a yellow front sheet, as the case may be followed by supplementary and/or replacement sheets.
Replacement sheets serve to replace existing sheets in the Service Manual. These sheets are identified by an additional letter after the page number, for example 5-1a. Page 5-1a then takes the place of page 5-1.

Supplementary sheets are inserted between the existing sheets in the Service Manual. These sheets can be identified by an additional figure following the page number, for example 5-1-1.
Sheet 5-1-1 should be inserted after page 5-1.
Each Service Information is accompanied by an updated list of contents per page.
For each page added or each page replaced the list of contents indicates with which service information the relevant page has been published.

- **Description of the system by means of which modifications are indicated in the recorder.**

All important parts of the recorder, such as tape deck, p.c. boards and modules, are provided with a sticker. These stickers specify a number of product data.
The meaning of this data will now be explained for the most important sections.

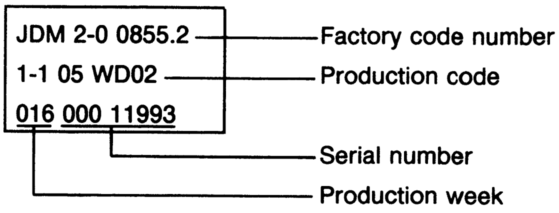
- *The complete recorder*
  Type plate
  The type plate is located at the back of the recorder. Below an example of such a type plate is given.


TYPE
220V ~ 50Hz 16 W
WD 03 9007 000000
Serial number
Production date
Change code
Production centre

Note:
- In the case of an important modification to the recorder the production code on the type plate is increased by one. E.g. 00 becomes 01.

- *Tape deck*
  Location of the sticker: to the inside of the left raised border of the mounting plate.

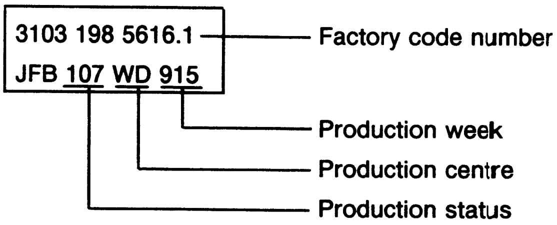
Example


JDM 2-0 0855.2
1-1 05 WD02
016 000 11993
Factory code number
Production code
Serial number
Production week

Note:
The production code and the serial number on the tape deck need not correspond to the production code and the serial number on the type plate.

- *Printed panels*
  The stickers are generally located on the track side of the module.

Example


3103 198 5616.1
JFB 107 WD 915
Factory code number
Production week
Production centre
Production status

Remarks:
- The production status number will not always be mentioned.
- In case of an important modification, the last figure of the factory code number (point number) is increased by one. E.g. 5616.1 becomes 5616.2.

2.1 Introduction

The software program of µC 7140 on JFB includes a service test program. The service test programs can be subdivided into four service modes:

- Mechanism test, where four mechanism functions are checked and errors are detected.
- Continuous test.
- Sensor test, which makes it possible to test the sensors present in the mechanism.
- Hours counter.

Note:
These tests and the faultfinding method respectively do not at all intend to indicate the error accurately to the component.

2.2 Calling the service test program

The service program is called in ON mode by simultaneously depressing the "stop" key on the remote control and "play" on the set for at least 4 seconds. On the display the tape counter position disappears and instead information on one of the service modes appears. To obtain information on another service mode the "timer" key on the set or on the remote control should be depressed once or several times.
The test program can be called any time. The set can be operated normally then. Only during a search cycle is it not allowed to call the test program. The test program is switched off by switching off the set by means of stand-by or by removing it from the mains.

2.3 Mechanism test

The mechanism test comprises the following tests.

2.3.1 The threading and unthreading time

As reference for this protection program the "COD 1 + COD2" and "COD 3" signals are taken. These signals are applied to port P0.1 and port P0.0 of µC 7140 on JFB. Fig. 2-1 shows the correct level changes of the "COD 1", "COD 2" and "COD 3" signals for a threading and unthreading cycle.

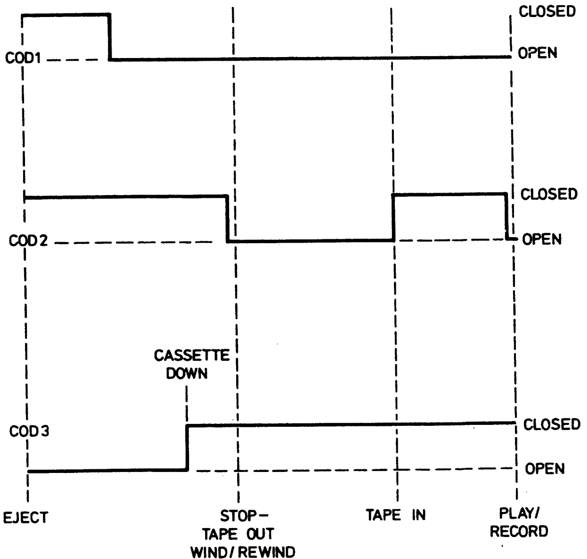


Fig. 2-1

The threading and unthreading cycle can be subdivided in a number of defined modes. These are the eject, stop unthreaded and threaded modes. The time between two successive modes is measured by the µC. If the allowed time between two successive modes is exceeded, for instance if the threading mechanism runs too heavily or blocks, the threading direction is reversed. Next an effort is made to reach the preceding mode. If this is possible, the motor stops at this mode. Next the set is switched electronically to the stand-by mode. If it is impossible to reach the preceding positon, the mode of the threading mechanism remains unchanged. Next the set is switched electronically to the stand-by mode. The following commands are executed correctly, if possible. When the time is exceeded from the eject mode to the "stop unthreaded" mode, the lift is brought in the eject mode again. Next the set waits for a new command. This situation occurs if a cassette has been inserted incorrectly.

2.3.2 Standstill of the head drum motor

As reference for this protection program the head drum tacho signal from IC7080 is taken. This signal is applied to port P3.3 of µC 7140 on JFB. If standstill of the head drum is detected, the set is switched to the stand-by mode.

2.3.3 Standstill of the capstan

As reference for this protection program the capstan tacho signal "TAC" is taken. This signal is applied to the counter in IC 7120 and via the UART bus fed to µC 7140. If standstill of the capstan is detected, the set is placed in the stand-by mode.

2.3.4 Standstill of the right-hand reel disc

As reference for this protection program the wind tacho signal "WTA" is used. This signal is applied to gate P2.5 of µC 7140.
If standstill of the right-hand reel disc is detected, the set is switched in the stand-by mode.

2.3.5 Explanation of error codes

If the service test program is called, the first data to be received will be on the mechanism test. During the mechanism test three of the displays of the tape counter will light up. If no error has occurred, a "0" will light up on the last display. The error code occurred last is stored in the RAM in IC 7101 on JDC.
A possibly formerly stored error is overwritten then. The error code is also stored when the mains voltage is interrupted. After renewed switching-on of the set this information can be called by the service test program.
As mentioned before the error codes are shown on the tape counter display. The error code is indicated with a four digit code. By the first digit the status is indicated in which mode the error has been detected. The last digit indicates which mechanism function has dropped out.
Fig. 2-2 shows all possible error codes with the most frequent causes (modes).
It is possible to delete the error code by depressing the "reset" key on the remote control.

code	position	code	position
0	Standby	9	Scan reverse
1	Eject on	10	Wind
2	Stop	11	Rewind
3	Still	12	Pause
4	Play	13	Reverse
5	Tuner	14	Fast
6	Record	15	Slow
7	Play+Tracking	16	Tuner eject
8	Scan forward	17	Eject off

error code	meaning	possible cause
E0	no error	none
E1	threading error	mechanical causes: – threading mechanism too heavy electrical causes: – IC 7140, IC 7120, IC 7001
E2	blocked capstan	mechanical causes: – capstan bearing worn electrical causes: – IC 7120, IC 7140, IC 7001, P687
E3	no reel tacho	mechanical causes electrical causes: – IC 7140, IC 7120, IC 7080, P677, P681, P686
E4	not used	
E5	not used	
E6	blocked headdrum	mechanical causes: – head drum is blocked by "sticking" tape electrical causes: – IC 7140, IC 7120, IC 7040

Fig. 2–2.

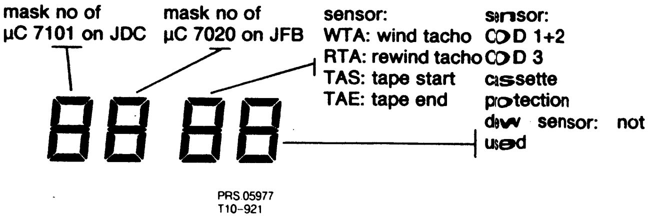
2.4 Continuous test

After the service program has been called the set can be brought in a continuous test. To achieve this the set should be switched to the play or record mode. The next cycle is executed continuously then, play till end of tape, unthreading, rewind till beginning of tape, threading, play till end of tape, etc. This test is especially intended to detect intermittent errors. If the protection program detects an error in one of the four service modes during this test, the error code is indicated on the tape counter display. Here the error occurred last is stored in the RAM so that renewed calling can take place after mains drop–out.

The continuous test program is ended if another mechanism function than "play" or "rewind" is selected, if the set is switched to the stand–by mode or if the set is removed from the mains voltage.

2.5 Sensor test

If the service test program is called and if next the "timer" key is pressed once, all four digits on the tape counter display will light up. See Fig. 2–3.



See table 1 + 2 of 2.5.2 for detail

Fig. 2–3

2.5.1 Check procedure without cassette

- remove the cassette.
- call the service test program.
- The third digit on display "8" or "9" or "U" or "C" or "blank".

no – see table 1

yes

- The fourth digit on display 2.

no – see table 2

yes

- Screen LED tower.
- The third digit on display "0" or "1" or "2" or "3".

no – see table 1

yes

- Move lift down (think of right-hand lift protection).
- The third digit on display "0" or "1" or "2" or "3".

no – see table 1

yes

- The fourth digit on display "0"

no – see table 2

yes

- Press the eject key.
- The fourth digit on display "2".

no – see table 2

yes

- Remove screening of LED tower, proceed with the check procedure with cassette.

2.5.2 Check procedure with cassette

- Insert a cassette (no recording protection).
- The cassette is accepted by the set.

no – check cassette in circuit COD 3, COD 1, IC 7140

yes

- The fourth digit on the display is a "4".

no – see table 1

yes

- Press the "wind" or "rewind" key.
- The fourth digit on the display is a "4".

- The third digit on the display changes between "0" and "4".

no – see table 1

yes

- Select play mode.
- The fourth digit will briefly change from "4" to "5" during threading.
- The fourth digit on the display is a "4".

no – see table 1

yes

- The third digit changes between "0" and "4".

no – see table 1

yes

- Proceed with possible other tests.

Table 1 Meaning of third digit on display

Third digit	port of µC 7140			
	P2.6 (TAED) pin 27	P2.7 (TASD) pin 28	P0.4 (RTA) pin 35	P2.5 (WTA) pin 26
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
U or C	1	0	1	0
blank	1	0	1	1
–	1	1	0	0
P or t	1	1	0	1
E	1	1	1	0
□	1	1	1	1

Table 2 Meaning of fourth digit on display

Fourth digit	port of µC 7140		
	P3.7 (RP) pin 17	P0.0 (COD 3) pin 39	P0.1 (COD1+COD2) pin 38
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

2.6 Hours counter

If the service program is called and if next the timer key on the set or on the remote control is pressed twice, only the colon and the last two digits will light up in the tape counter display if the time is 99 hours or less. If the time is more than 99 hours, all four displays will light up. These digits give the number of hours the set is threaded (play, record and pause).

2.7 Clear of the internal RAM in IC7101

Only possible in sets with productions date from 9032 onwards.

All data are cleared with the following procedure:

- disconnect the set from the mains.
- press the keys 'REWIND', 'STILL' and 'DOWN' (-1) simultaneously and connect the set to the mains.

Servicing of SMDs (Surface Mounted Devices)

1. General cautions on handling and storage.

a) Oxidation on the SMDs terminals results in poor soldering. Do not handle SMDs with bare hands.

b) Avoid for storage places that are sensitive to oxidation such as places with sulfur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity.
As a result the capacitance or resistance value of the SMDs may be affected.

c) Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

2. Removal of SMDs

a) Heat the solder (for 2–3 seconds) at each terminal of the chip. Small components can, by means of litz wire and a limited horizontal force, be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 2a) or

b) While holding the SMD with a pair of tweezers take it off gently using the soldering iron's heat applied to each terminal (see Fig. 2b).

c) Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 2c).

Caution on removal:

a) When handling the soldering iron, use suitable pressure and be careful.

b) When removing the chip, do not use undue force with the pair of tweezers.

c) The soldering iron to be used (approx. 30 W), must preferably be provided with a thermal control (soldering temperature about 225 to 250°C).

d) The chip, once removed, must **never** be used again.

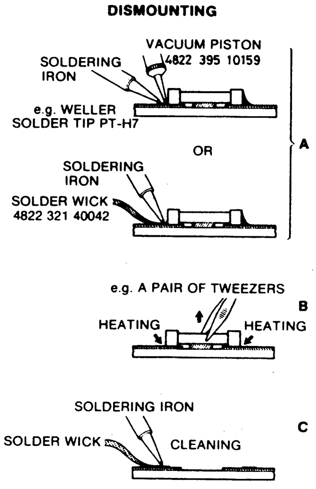

DISMOUNTING
VACUUM PISTON
4822 395 10159
SOLDERING IRON
e.g. WELLER SOLDER TIP PT-H7
OR
A
SOLDERING IRON
SOLDER WICK
4822 321 40042
e.g. A PAIR OF TWEEZERS
B
HEATING
HEATING
SOLDERING IRON
C
SOLDER WICK
CLEANING
43 767 A11

Fig. 2

3. Attachment of SMDs

a) Locate the SMD on the solder lands by means of tweezers and solder the component at one side. Ensure that the component is positioned well on the solder lands (see Fig. 3a).

b) Next complete the soldering of the terminals of the component (see Fig. 3b).

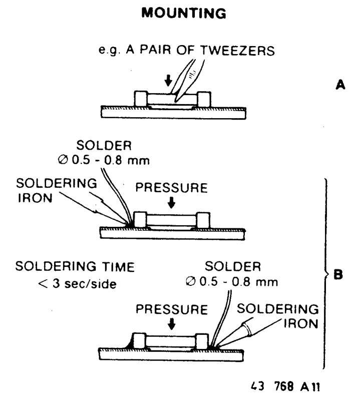

MOUNTING
e.g. A PAIR OF TWEEZERS
A
SOLDER
∅ 0.5 - 0.8 mm
SOLDERING IRON
PRESSURE
SOLDERING TIME
< 3 sec/side
SOLDER
∅ 0.5 - 0.8 mm
B
PRESSURE
SOLDERING IRON
43 768 A11

Fig. 3

Caution on attachment:

a) When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering must be as quick as possible; care must be taken to avoid damage to the terminals and the body itself.

b) Keep the SMD's body in contact with the printed board when soldering.

c) The soldering iron to be used (approx. 30 W) must preferably be provided with a thermal control (soldering temperature about 225 to 250°C).

d) Soldering should not be done outside the solder land.

e) Soldering flux (of rosin) may be used but should not be acidic.

f) After soldering, let the SMD cool down gradually at room temperature.

g) The quantity of solder must be proportional with the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 4).

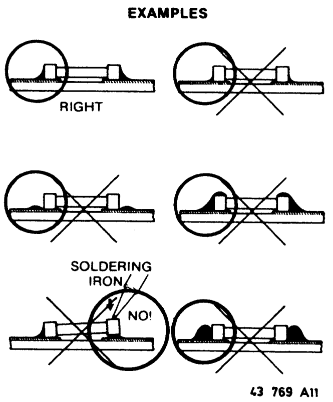
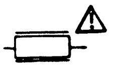
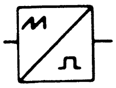

EXAMPLES
RIGHT
SOLDERING IRON
NO!
43 769 A11

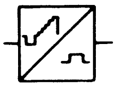
Fig. 4



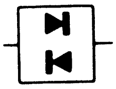
Safety resistor
Veiligheidsweerstand
Sicherheitswiderstand
Résistance de sécurité
Resitencia de seguridad
Resistenza i sicurezza



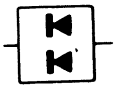
Sawtooth pulse converter
Zaagtand-puls omzetter
Sägezahn Impulsumformer
Convertisseur d'impulsions en dents de scie
Convertidor de impulsos en diente de sierra
Convertitore a dente di sega



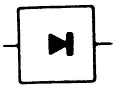
Sync separator
Sync scheider
Séparateur sync
Separador de sincronismos
Separatore dei sincronismi



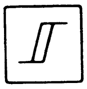
FM detector
FM detector
FM-Detektor
Détecteur FM
Detector de FM
Rivelatore FM



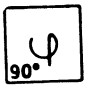
Phase discriminator
Fasediscriminator
Phasenvergleich
Discriminateur de phase
Dicriminador de fase
Discriminatore di fase



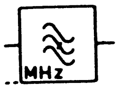
Detector
Detector
Detektor
Détecteur
Detector
Rivelatore



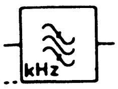
Level detector
Niveau detector
Niveau-Detektor
Détecteur de niveau
Detector de nivel
Rivelatore di livello



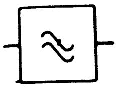
Phase-changing network
Faseverschuiver
Phasenverschiebung
Circuit de déphasage
Circuito de cambio de fase
Circuito sfasatore



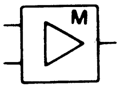
Rejection filter
Bandsperfilter
Bandsperrefilter
Filtre de suppression
Filtro supresor
Filtro soppressore



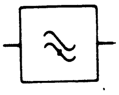
Bandpass filter
Band-doorlatend filter
Bandpassfilter
Filtre passe-bande
Filtro pasa-banda
Filtro passa-banda



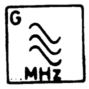
Low-pass filter
Laag-doorlatend filter
Tiefpassfilter
Filtre passe-bas
Filtro pasa-bajos
Filtro passa-basso



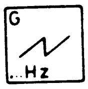
Mixer stage
Mengtrap
Mischstufe
Etage mélangeur
Mezclador
Stadio miscelatore



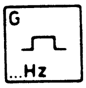
High-pass filter
Hoog-doorlatend filter
Hochpassfilter
Filtre passe-haut
Filtro pasa-alto
Filtro passa-alto



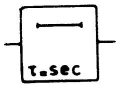
HF generator
HF generator
HF-Generator
Générateur HF
Generador de RF
Generatore A.F.



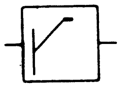
Sawtooth generator
Zaagtandgenerator
Sägezahngenerator
Générateur de dents de scie
Generador diente de sierra
Generatore di dente disega



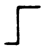
Square wave generator
Pulsgenerator
Rechteckgenerator
Générateur d'impulsions
rectangulaires
Generador de onda cuadrada
Generatore di onda guadra



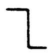
Delay element
Vertragingselement
Verzögerungselement
Elélement à retard
Elemento de retardo
Linea di ritardo



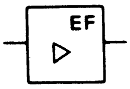
Limiter
Begrenzer
Begrenzer
Limiteur
Limitador
Limitatore



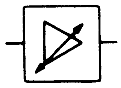
Positive-goingstep function
Positieve flank
Übergang von tief zu hoch
Fonction de palier en sens positif
Flanco de subida positivo
Abilitazione durante il fronte di salita



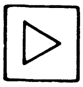
Negative-going step function
Negatieve flank
Übergang von hoch zu tief
Fonction de palier en sens négatif
Flanco de bajada negativo
Abilitazione durante il fronte di discesa



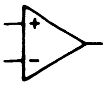
Emitter follower
Emitter volger
Emitter folger
Emetteur suiveur
Seguidor de emisor
Inseguitore d'emittitore



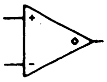
Automatically controlled amplifier
Automatische gestuurde versterker
Automatisch gesteuerter Verstärker
Amplificateur à commande automatique
Amplificador de control automático
Amplificatore autocontrollato



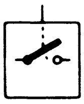
Amplifier
Versterker
Verstärker
Ampli
Amplificador
Amplificatore



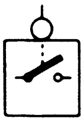
Differential amplifier
Verschilversterker
Differentialverstärker
Ampli différentiel
Amplificador diferencial
Amplificatore differenziale



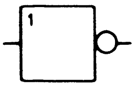
Amplifier with open output
Versterker met open uitgang
Verstärker mit offenem Ausgang
Ampli a sortie ouverte
Amplificador de salida abierta
Amplificatore con uscita aperta



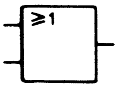
Electronic switch
Electronische schakelaar
Electronische Schalter
Commutateur électronique
Conmutador electrónico
Interruttore elettronico



Electronic switch
Electronische schakelaar
Electronische Schalter
Commutateur électronique
Conmutador electrónico
Interruttore elettronico

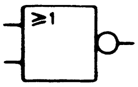


Invertor
Inverter
Inverter
Invertisseur
Inversor
Invertitore



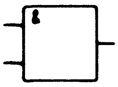
Or gate
Of-poort
Oder
Porte ou
Puerta or
Porta or

A	B	x
0	0	0
0	1	1
1	0	1
1	1	1



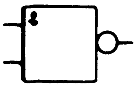
Nor gate
"Nor"
"Nor"
Porte Non-ou
Puerta nor
Porta nor

A	B	x
0	0	1
0	1	0
1	0	0
1	1	0



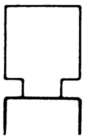
And gate
En-poort
Und Gatter
Porte Et
Puerta and
Porta and

A	B	x
0	0	0
0	1	0
1	0	0
1	1	1



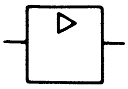
Nand gate
"Nand"
"Nand"
Porte "Non-Et"
Puerta nand
Porta nand

A	B	x
0	0	1
0	1	1
1	0	1
1	1	0

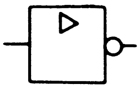


Common control block
Gemeenschappelijk controleblok
Gemeinschaftlicher Kontrolleblock
Bloc de contrôle commun
Bloque de control común
Sezione di controllo comune

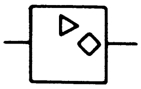
SRG	Shift register Schuif register Schieberegister Registre à décalage Registro de desplazamiento Registro di scorrimento
Q	Output Uitgang Ausgang Sortie Salida Uscita
◇	Open collector output Open kollektor uitgang Offenen Kollektor Ausgang Sortie collecteur ouvert Salida de colector abierto Uscita a collettore aperto
G	Command input Kommando ingang Kommando eingang Entrée ordres Entrada de órdenes Comando di ingresso
CE	Chip enable input Chip enable ingang Chip enable eingang Entrée chip validation Entrada de validación del chip Abilitazione ingresso dati
00	Bidirectional Tweezijdig gevoelig Doppelseitig empfindlich Bidirectinel Bidireccional Bidirezionale



Buffer
Buffer
Puffer
Tampon
Buffer (Memoria intermedia)
Buffer

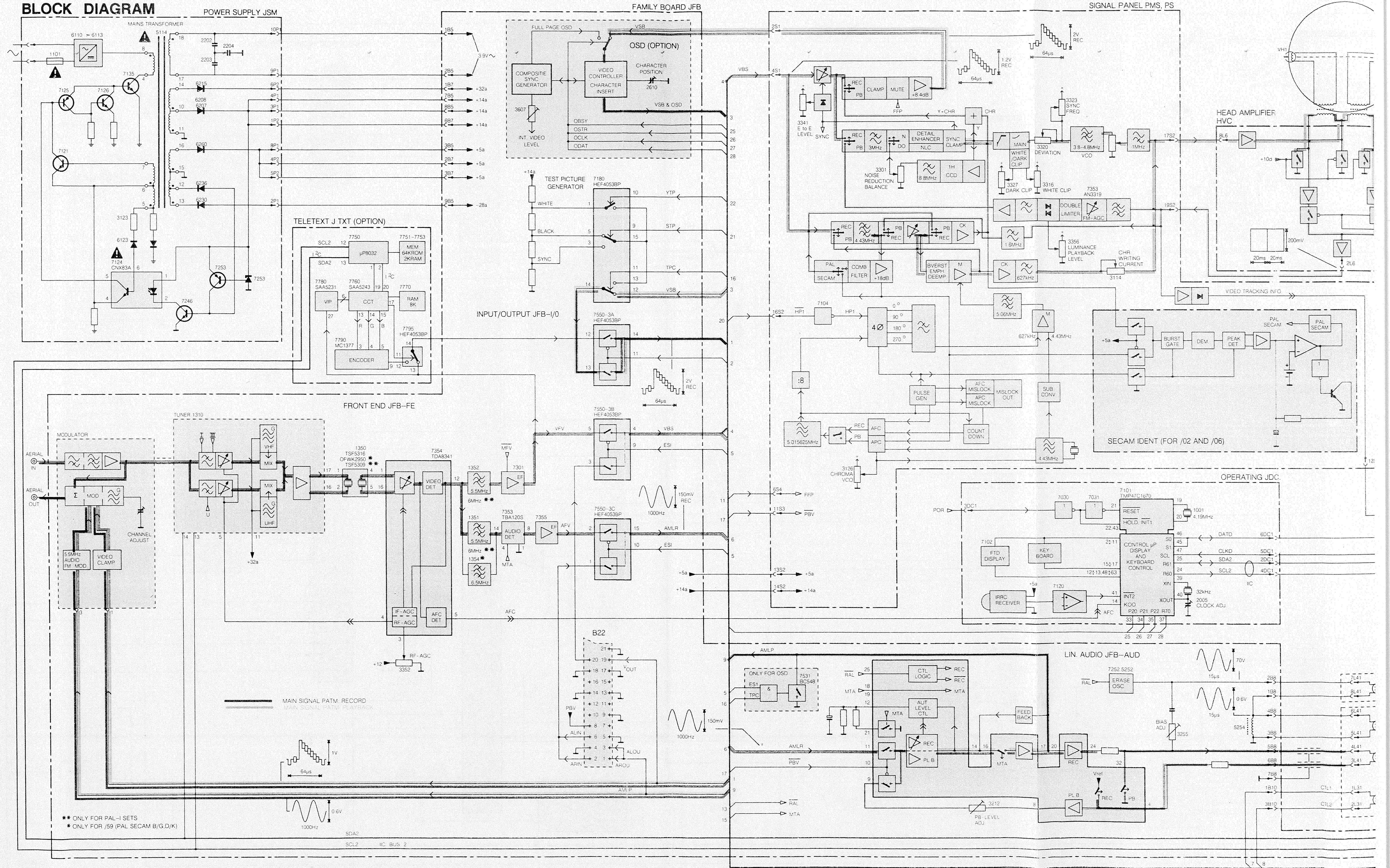


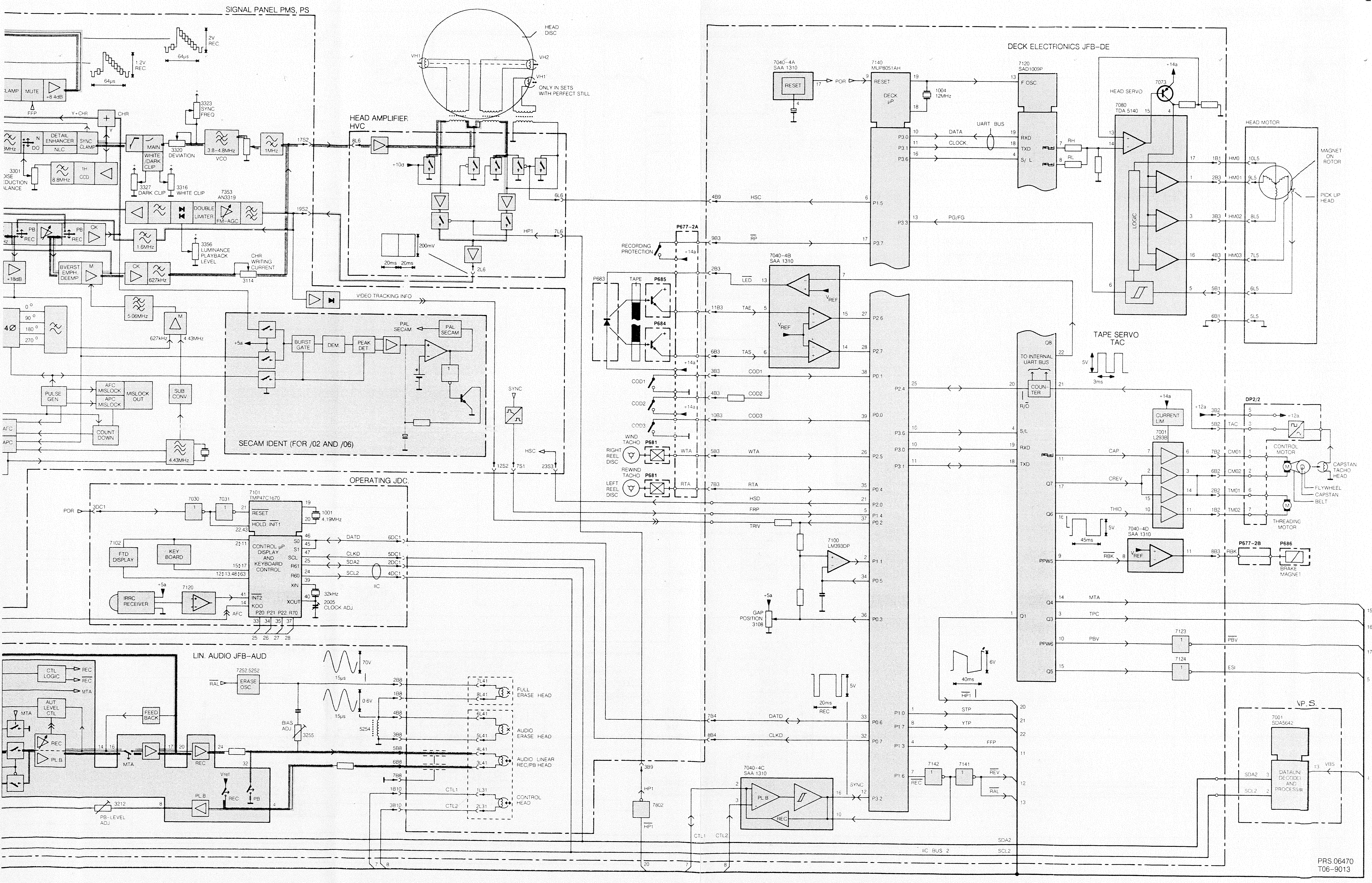
Inverting buffer
Inverterende buffer
Invertierende puffer
Tampon invertisseur
Buffer inversor
Buffer invertente

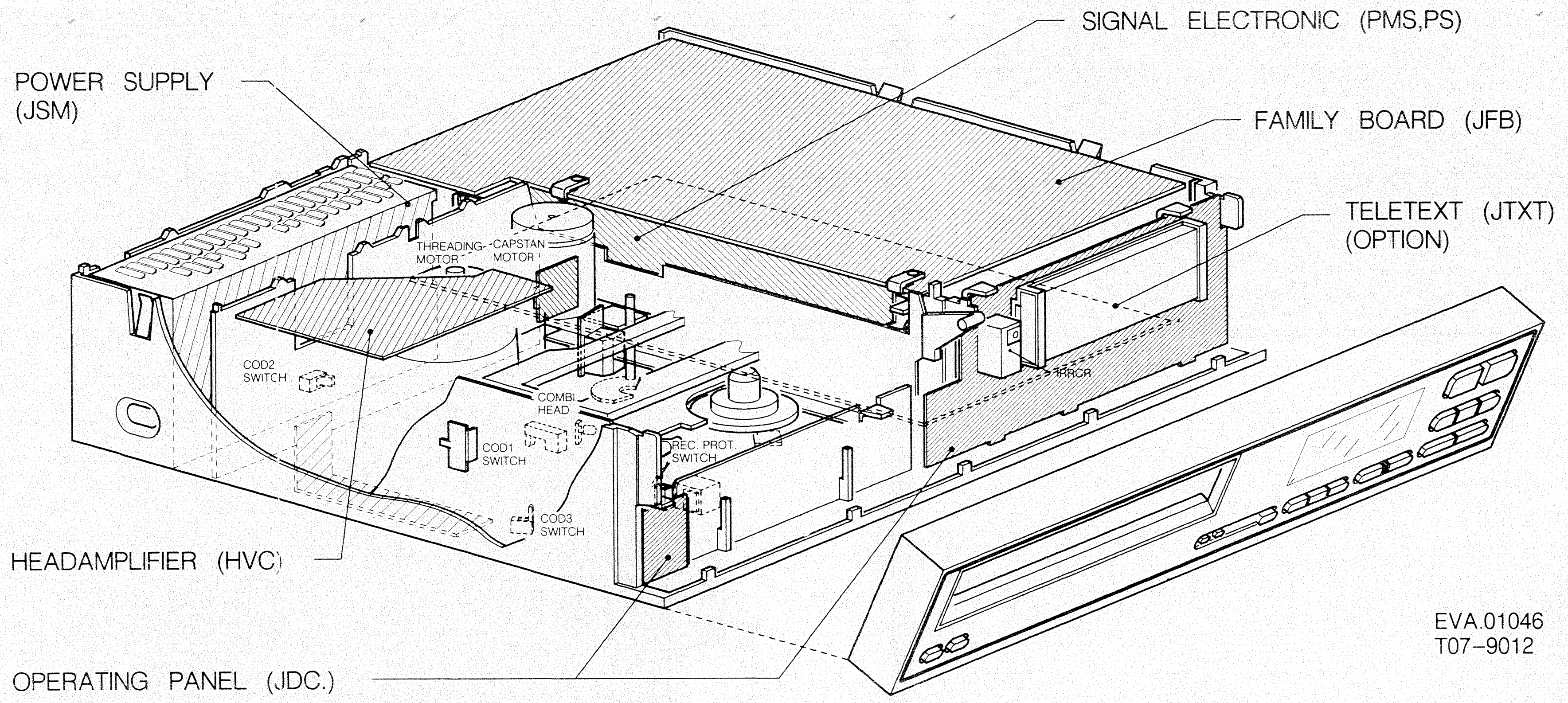


Buffer with open output
Buffer met open uitgang
Puffer mit offenem ausgang
Tampon à sortie ouverte
Buffer de salida abierta
Buffer con uscita aperta

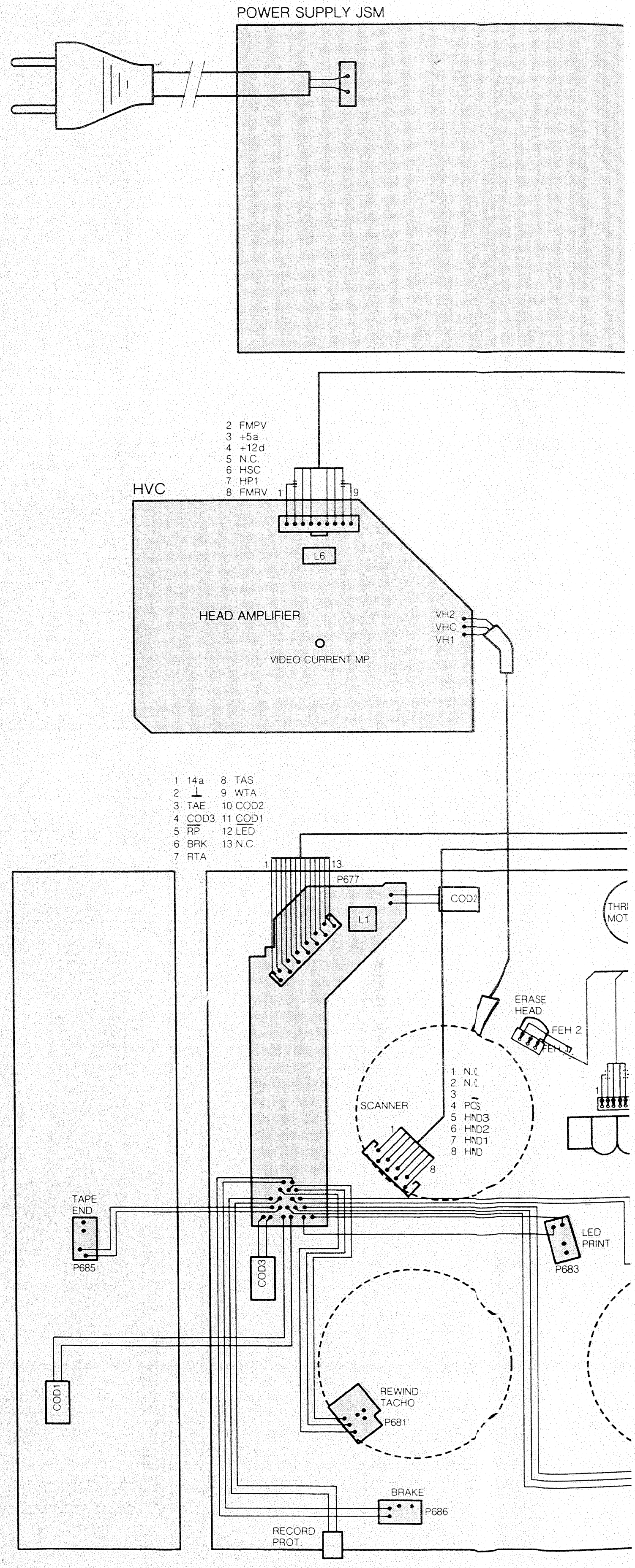
BLOCK DIAGRAM


POWER SUPPLY JSM
MAINS TRANSFORMER
6110 ÷ 6113
1101
5114
7135
7125
7126
7121
3123
6123
7124 CNX83A
7253
7246
FAMILY BOARD JFB
FULL PAGE OSD
VSB
OSD (OPTION)
COMPOSITE SYNC GENERATOR
VIDEO CONTROLLER
CHARACTER INSERT
CHARACTER POSITION
2610
3607
INT. VIDEO LEVEL
VSB & OSD
OBSY
OSTR
OCLK
ODAT
TEST PICTURE GENERATOR
7180 HEF4053BP
WHITE
BLACK
SYNC
YTP
STP
TPC
TELETEXT J TXT (OPTION)
7750 µP8032
7751–7753 MEM 64KROM 2KRAM
SCL2
SDA2
7780 SAA5231
7760 SAA5243
VIP
CCT
7770 RAM 8K
7790 MC1377
ENCODER
7795 HEF4053BP
INPUT/OUTPUT JFB-I/0
7550-3A HEF4053BP
7550-3B HEF4053BP
7550-3C HEF4053BP
VFV
VBS
ESI
AMLR
FRONT END JFB–FE
TUNER 1310
VHF
UHF
MIX
MODULATOR
AERIAL IN
AERIAL OUT
MOD
CHANNEL ADJUST
5.5MHz AUDIO FM MOD
VIDEO CLAMP
1350 TSF5316 OFWK2950 TSF5309
7354 TDA8341
VIDEO DET
IF-AGC
RF-AGC
AFC DET
3352
1352 5.5MHz
6MHz
1351 5.5MHz
1354 6.5MHz
7353 TBA120S
AUDIO DET
7301 EF
7355 EF
MFV
AFV
MTA
AFC
B22
VOUT
ALIN
ARIN
AMP
ALOU
AROU
PBV
150mV REC
1000Hz
2V REC
64µs
1V
0.6V
MAIN SIGNAL PATH RECORD
MAIN SIGNAL PATH PLAYBACK
** ONLY FOR PAL-I SETS
* ONLY FOR /59 (PAL SECAM B/G,D/K)
SDA2
SCL2
IIC BUS 2
SIGNAL PANEL PMS, PS
REC
PB
CLAMP
MUTE
+8.4dB
FFP
Y+CHR
CHR
3341 E to E LEVEL
SYNC
3MHz
DO
DETAIL ENHANCER
NLC
SYNC CLAMP
3301 NOISE REDUCTION BALANCE
8.8MHz
1H CCD
MAIN WHITE /DARK CLIP
3320 DEVIATION
3327 DARK CLIP
3316 WHITE CLIP
3323 SYNC FREQ
3.8–4.8MHz VCO
1MHz
7353 AN3319
DOUBLE LIMITER
FM-AGC
4.43MHz
CK
1.6MHz
3356 LUMINANCE PLAYBACK LEVEL
CHR WRITING CURRENT
3114
627kHz
PAL SECAM
COMB FILTER
+18dB
BVERST EMPH DEEMP
5.06MHz
VIDEO TRACKING INFO
HEAD AMPLIFIER HVC
VH1
200mV
20ms
HP1
7104
4Ø
:8
PULSE GEN
AFC MISLOCK
APC MISLOCK
MISLOCK OUT
SUB CONV
COUNT DOWN
5.015625MHz
3126 CHROMA VCO
SECAM IDENT (FOR /02 AND /06)
BURST GATE
DEM
PEAK DET
OPERATING JDC
7101 TMP47C1670
POR
7030
7031
RESET
HOLD, INIT1
1001 4.19MHz
CONTROL µP DISPLAY AND KEYBOARD CONTROL
7102 FTD DISPLAY
KEY BOARD
DATD
CLKD
7120
IRRC RECEIVER
INT2
KOO
XIN
XOUT
32kHz
2005 CLOCK ADJ
IIC
LIN. AUDIO JFB–AUD
ONLY FOR OSD
7531 BC548
RAL
CTL LOGIC
AUT LEVEL CTL
FEED BACK
7252 5252 ERASE OSC
BIAS ADJ
3255
5254
70V
15µs
PB LEVEL ADJ
3212
Vref
CTL1
CTL2


SIGNAL PANEL PMS, PS
HEAD DISC
VH1
VH2
ONLY IN SETS WITH PERFECT STILL
2V REC
1.2V REC
64μs
CLAMP
MUTE
+8.4dB
FFP
Y+CHR
CHR
DETAIL ENHANCER
NLC
SYNC CLAMP
DO
3323 SYNC FREQ
MAIN
WHITE /DARK CLIP
3320 DEVIATION
3.8-4.8MHz
VCO
1MHz
17S2
19S2
3301 NOISE REDUCTION BALANCE
8.8MHz
1H CCD
3327 DARK CLIP
3316 WHITE CLIP
7353 AN3319
DOUBLE LIMITER
FM-AGC
PB
REC
CK
1.6MHz
3356 LUMINANCE PLAYBACK LEVEL
CHR WRITING CURRENT
3114
+18dB
BVERST EMPH DEEMP
M
627kHz
5.06MHz
4.43MHz
0°
90°
180°
270°
PULSE GEN
AFC MISLOCK
APC MISLOCK
MISLOCK OUT
COUNT DOWN
SUB CONV
AFC
APC
HEAD AMPLIFIER HVC
8L6
+10d
200mV
20ms
6L6
7L6
HP1
2L6
VIDEO TRACKING INFO
SECAM IDENT (FOR /02 AND /06)
+5a
BURST GATE
DEM.
PEAK DET
PAL SECAM
SYNC
HSC
12S2
7S1
23S3
OPERATING JDC
POR
3DC1
7030
7031
7101 TMP47C1670
RESET
HOLD. INIT1
1001 4.19MHz
7102
FTD DISPLAY
KEY BOARD
CONTROL μP DISPLAY AND KEYBOARD CONTROL
DATD
CLKD
SDA2
SCL2
6DC1
5DC1
2DC1
4DC1
IIC
IRRC RECEIVER
7120
INT2
KOO
XCUT
32kHz
2005 CLOCK ADJ
P20 P21 P22 R70
LIN. AUDIO JFB-AUD
CTL LOGIC
REC
MTA
AUT LEVEL CTL
FEED BACK
7252.5252
RAL
ERASE OSC
70V
15μs
0.6V
BIAS ADJ
3255
5254
PL.B
Vref
3212
PB-LEVEL ADJ
2B8
1B8
4B8
3B8
5B8
6B8
7B8
1B10
3B10
CTL1
CTL2
7L41
8L41
6L41
5L41
4L41
3L41
1L31
2L31
FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO LINEAR REC/PB HEAD
CONTROL HEAD
DECK ELECTRONICS JFB-DE
7040-4A SAA 1310
RESET
POR
7140 MUP8051AH
DECK μP
1004 12MHz
7120 SAD1009P
F OSC
UART BUS
DATA
CLOCK
RXD
TXD
S/L
RH
RL
HEAD SERVO
7080 TDA 5140
7073
+14a
LOGIC
HEAD MOTOR
HM0
HM01
HM02
HM03
10L5
9L5
8L5
7L5
6L5
5L5
1B1
2B3
3B3
4B3
5B1
6B1
MAGNET ON ROTOR
PICK UP HEAD
4B9
HSC
P1.5
PG/FG
P3.3
P677-2A
9B3
RP
P3.7
RECORDING PROTECTION
7040-4B SAA 1310
2B3
LED
VREF
11B3
TAE
6B3
TAS
P2.6
P2.7
P683
TAPE
P685
P684
+14a
3B3
COD1
4B3
COD2
10B3
COD3
P0.1
P0.0
P2.4
WIND TACHO
RIGHT REEL DISC
REWIND TACHO
LEFT REEL DISC
P681
5B3
WTA
7B3
RTA
P2.5
P0.4
HSD
FRP
TRIV
P2.0
P1.4
P0.2
7100 LM393DP
P1.1
P0.5
GAP POSITION 3108
P0.3
TAPE SERVO TAC
5V
3ms
Q8
TO INTERNAL UART BUS
COUNTER
R/O
S/L
RXD
TXD
Q7
Q6
PPW5
Q4
Q3
PPW6
Q5
Q1
CURRENT LIM
7001 L293B
+12a
3B2
5B2
TAC
DP2/2
CONTROL MOTOR
CAP
CREV
THIO
7B2
6B2
2B2
1B2
CM01
CM02
TM01
TM02
CAPSTAN TACHO HEAD
FLYWHEEL
CAPSTAN
BELT
THREADING MOTOR
45ms
7040-4D SAA 1310
RBK
8B3
P677-2B
P686
BRAKE MAGNET
MTA
TPC
PBV
ESI
7123
7124
15
16
17
5
6V
40ms
HP1
STP
YTP
FFP
REV
RAL
7142
7141
20
21
22
11
12
13
7B4
DATD
6B4
CLKD
P0.6
P0.7
P1.0
P1.7
P1.3
P1.6
P3.2
20ms REC
7040-4C SAA 1310
PL.B
REC
SYNC
3B9
HP1
7802
CTL1
CTL2
SDA2
SCL2
IIC BUS 2
VPS
7001 SDA5642
DATALIN DECODER AND PROCESSOR
VBS
PRS.06470
T06-9013


SIGNAL ELECTRONIC (PMS,PS)
POWER SUPPLY (JSM)
FAMILY BOARD (JFB)
TELETEXT (JTXT) (OPTION)
THREADING MOTOR
CAPSTAN MOTOR
COD2 SWITCH
COMBI HEAD
COD1 SWITCH
REC. PROT. SWITCH
FRRCR
COD3 SWITCH
HEADAMPLIFIER (HVC)
OPERATING PANEL (JDC.)
EVA.01046
T07–9012

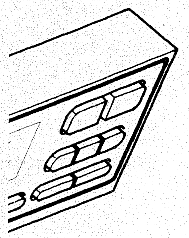
WIRING DIAGRAM


POWER SUPPLY JSM
HVC
2 FMPV
3 +5a
4 +12d
5 N.C.
6 HSC
7 HP1
8 FMRV
1
9
L6
HEAD AMPLIFIER
VIDEO CURRENT MP
VH2
VHC
VH1
1 14a
2 ⊥
3 TAE
4 COD3
5 RP
6 BRK
7 RTA
8 TAS
9 WTA
10 COD2
11 COD1
12 LED
13 N.C
1
13
P677
L1
COD2
THR
MOT
ERASE HEAD
FEH 2
FEH 1
SCANNER
1 N.C
2 N.C
3 ⊥
4 PG
5 HN03
6 HN02
7 HN01
8 HN0
1
8
TAPE END
P685
COD3
LED PRINT
P683
COD1
REWIND TACHO
P681
BRAKE
P686
RECORD PROT.

IS,PS)

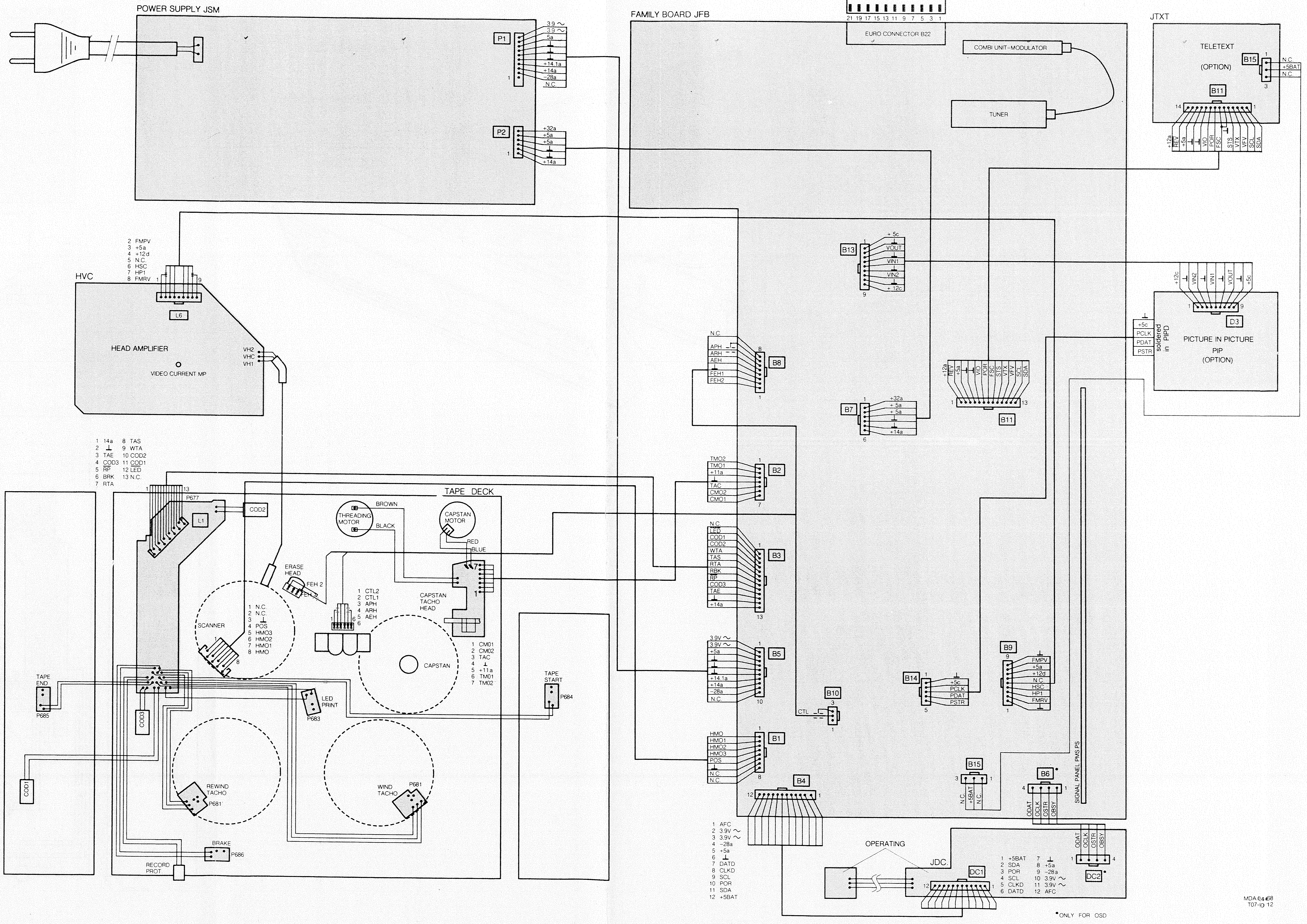
ARD (JFB)

ETEXT (JTXT)
ION)



EVA.01046
T07–9012

WIRING DIAGRAM


POWER SUPPLY JSM
P1
3.9 ∼
3.9 ∼
5a
+14.1a
+14a
−28a
N.C.
P2
+32a
+5a
+5a
+14a
HVC
2 FMPV
3 +5a
4 +12d
5 N.C.
6 HSC
7 HP1
8 FMRV
L6
HEAD AMPLIFIER
VIDEO CURRENT MP
VH2
VHC
VH1
1 14a
2 ⊥
3 TAE
4 COD3
5 RP
6 BRK
7 RTA
8 TAS
9 WTA
10 COD2
11 COD1
12 LED
13 N.C.
TAPE DECK
P677
L1
COD2
THREADING MOTOR
BROWN
BLACK
CAPSTAN MOTOR
RED
BLUE
ERASE HEAD
FEH 2
FEH 1
1 CTL2
2 CTL1
3 APH
4 ARH
5 AEH
6
CAPSTAN TACHO HEAD
1 N.C.
2 N.C.
3 ⊥
4 POS
5 HMO3
6 HMO2
7 HMO1
8 HMO
SCANNER
CAPSTAN
1 CM01
2 CM02
3 TAC
4 ⊥
5 +11a
6 TM01
7 TM02
TAPE END
P685
COD3
LED PRINT
P683
TAPE START
P684
COD1
REWIND TACHO
P681
WIND TACHO
P681
BRAKE
P686
RECORD PROT
FAMILY BOARD JFB
20 18 16 14 12 10 8 6 4 2
21 19 17 15 13 11 9 7 5 3 1
EURO CONNECTOR B22
COMBI UNIT–MODULATOR
TUNER
JTXT
TELETEXT
(OPTION)
B15
N.C.
+5BAT
N.C.
B11
+12a
REV
+5a
VIO
POR
FSC
STS
VTX
VFV
SCL
SDA
B13
+5c
VOUT
VIN1
VIN2
+12c
PICTURE IN PICTURE
PIP
(OPTION)
D3
soldered in PIPD
+5c
PCLK
PDAT
PSTR
B8
N.C.
APH
ARH
AEH
FEH1
FEH2
B7
+32a
+5a
+5a
+14a
B11
B2
TMO2
TMO1
+11a
TAC
CMO2
CMO1
B3
N.C.
LED
COD1
COD2
WTA
TAS
RTA
RBK
RP
COD3
TAE
+14a
B5
3.9V ∼
3.9V ∼
+5a
+14.1a
+14a
−28a
N.C.
B10
CTL
B14
+5c
PCLK
PDAT
PSTR
B9
FMPV
+5a
+12d
N.C.
HSC
HP1
FMRV
B1
HMO
HMO1
HMO2
HMO3
POS
N.C.
N.C.
B4
B15
N.C.
+5BAT
N.C.
B6
ODAT
OCLK
OSTR
OBSY
SIGNAL PANEL PMS PS
1 AFC
2 3.9V ∼
3 3.9V ∼
4 −28a
5 +5a
6 ⊥
7 DATD
8 CLKD
9 SCL
10 POR
11 SDA
12 +5BAT
OPERATING
JDC
DC1
1 +5BAT
2 SDA
3 POR
4 SCL
5 CLKD
6 DATD
7 ⊥
8 +5a
9 −28a
10 3.9V ∼
11 3.9V ∼
12 AFC
ODAT
OCLK
OSTR
OBSY
DC2
•ONLY FOR OSD

MDA 04 68
T07–10 12

DISASSEMBLY OF CABINET PARTS AND SERVICING POSITIONS OF PCBS

For tape deck information see the separate deck documentation IDM 4822 726 14711 inclusive service information VR90-05GB.

1. The upper cover

Disassembly
- Remove screws A, B, C, D, E and F (see Fig. 2–1).
- Pull the upper cover approx 1 cm backwards. If the side walls of the upper cover are pressed slightly outwards the upper cover can be taken away.

Assembly:
- Place the ridge of the upper cover against the control panel. Next assembly takes place in the reversed order.

2. The bottom plate

- Place set upside down.
- Unlock snap–in constructions A and B (see Fig. 2–2).
- Next the bottom plate can be removed.

3. The control panel

- Remove the upper cover, see Fig. 2.1.
- The control panel is locked at the lower cabinet with three snap–in constructions (see Fig. 2–3). If these snap–in constructions are unlocked, the entire control panel can be tilted forwards.

Note:
During assembly the five bosses of the lower cabinet should first be placed in the slots of the control panel.

4. Servicing position Power Supply JSM

- Press the cabinet parts at left and right of the power supply slightly outwards. Next the entire power supply JSM can be removed from the cabinet (see Fig. 2–4).

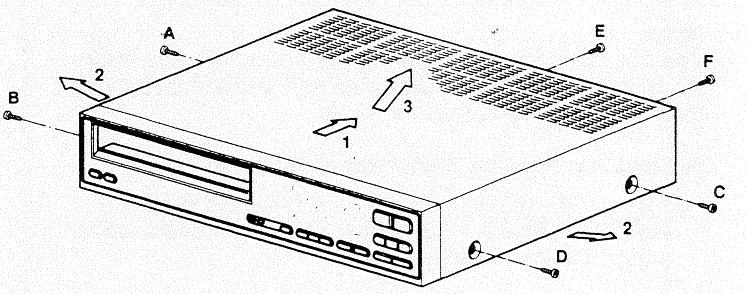


Fig. 2-1 MDA.01326 T33/814

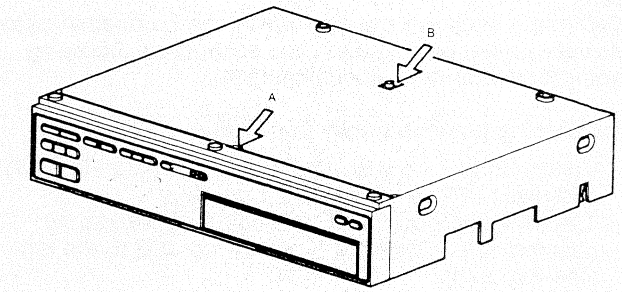


Fig. 2-2 MDA.01327 T33/815

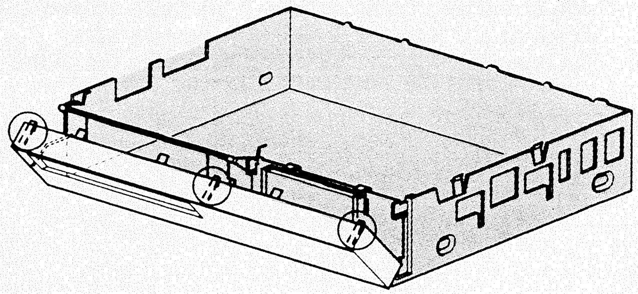


Fig. 2-3 MDA.01322 T33/813

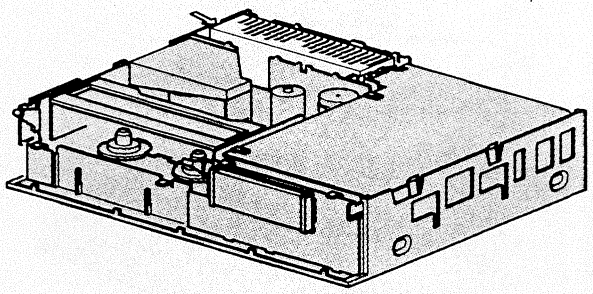


Fig. 2-4 MDA.01323 T33/814

5. Control PCB JDC

- The PCB can be taken out of the lower cabinet if the two snap–in constructions are unlocked (see Fig. 2–5).

Note:
The components under the display are accessible after the display holder has been unlocked and the display has been tilted forwards (see Fig. 2–6).

6. Servicing position Signal Panel PMS, PS

- Place JFB– (family board) in the servicing position (see Fig. 2.8); the PCB is now accessible at the upper and at the lower sides.

7. Servicing position head amplifier HVC

- The components on HVC are accessible after the cover has been removed.

Note:
HVC has a servicing position which can be used in case of replacement of the head disc, scanner or threading motor (see tape-deck documentation).

8. Servicing position family board JFB

- Unlock snap–in constructions A and B (see Fig. 2–7) and place JFB in the servicing position.
- The servicing position of JFB can be unlocked by pushing strip A down and by moving JFB to the left (see Fig. 2–8).

9. The mechanism

- After removal of the bottom plate access to the lower side of the mechanism is free. If the three screws are removed and if the associated connectors are disconnected the mechanism can be lifted out of the lower cabinet (see Fig. 2–9).

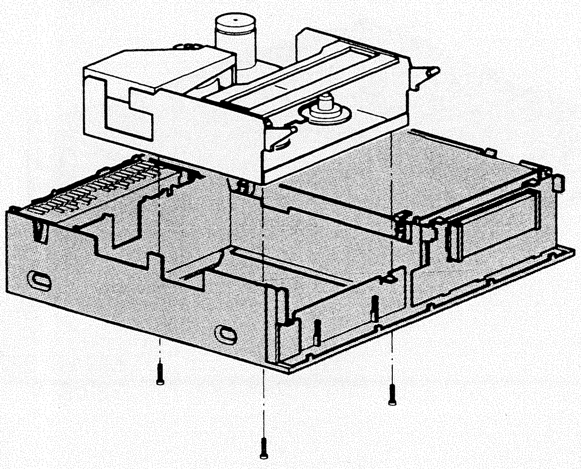


Fig. 2-9 MDA.01325 T33/814

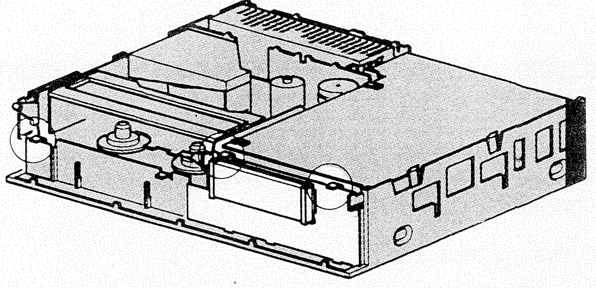


Fig. 2-5 MDA.01320 T33/814

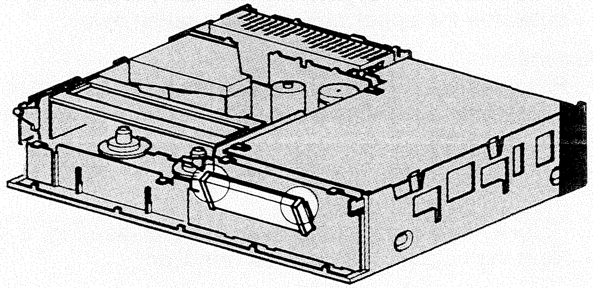


Fig. 2-6 MDA.01321 T33/814

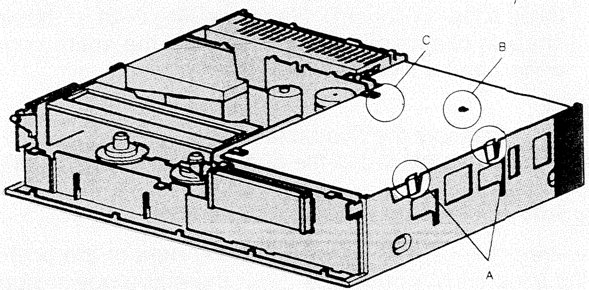


Fig. 2-7 MDA.01319 T33/815

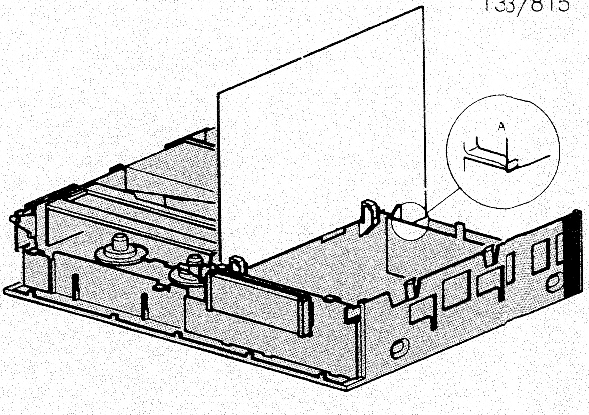


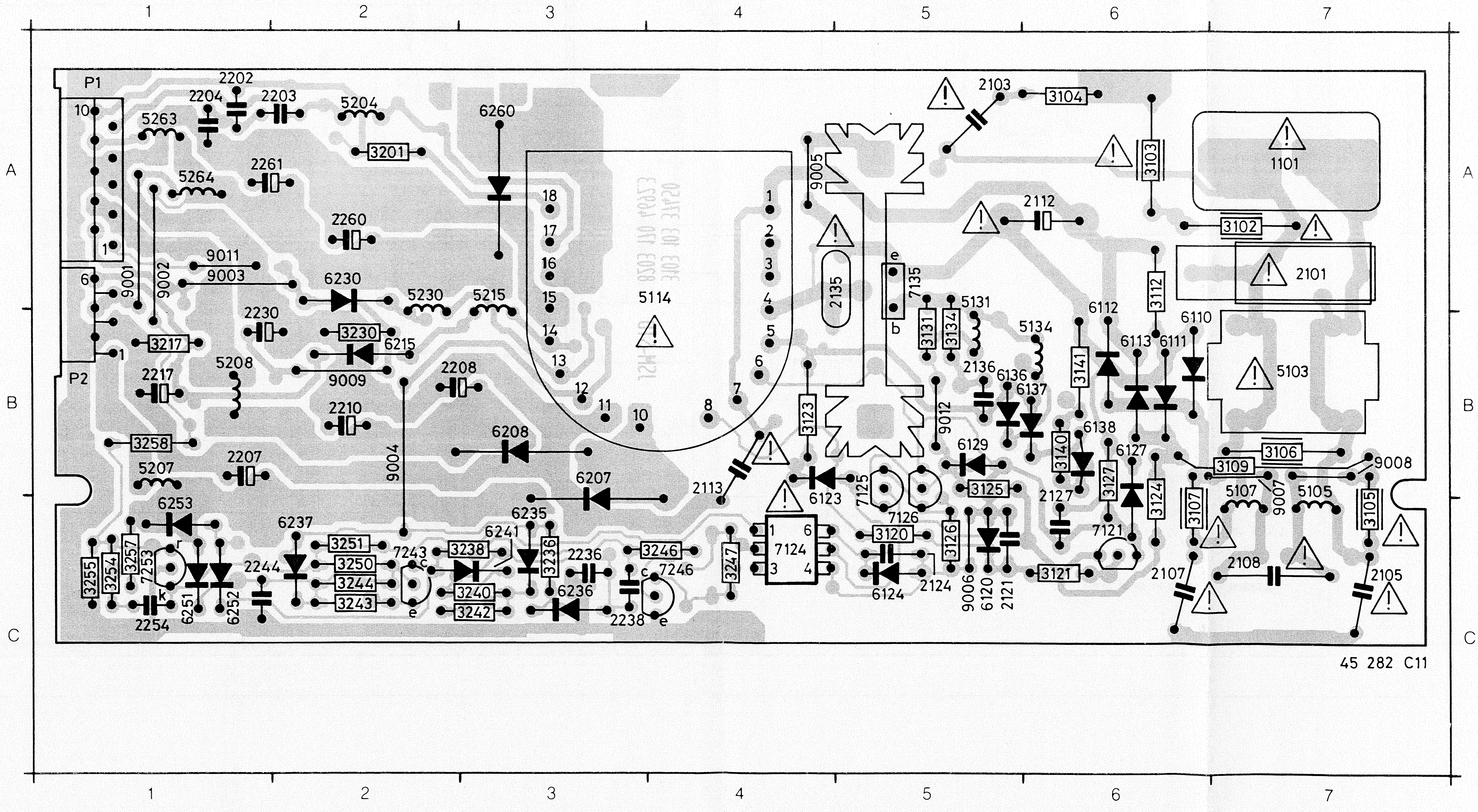
Fig. 2-8 MDA.01324 T33/814

	Lijst van afkortingen	Lista de abreviaturas	Lista delle abbreviazioni
AEH	Audio wiskop	Cabeza de borrado de audio	Testina cancellazione audio
AFV	Audio front-end video	Audio front-end video	Audio dal front-end
ALIN1	Audio links ingang extern	Entrada externa audio izquierdo	Ingresso esterno audio sinistro
ALOU	Audio links uitgang extern	Salida externa audio izquierdo	Uscita esterna audio sinistro
AMCO	Audio naar de modulator	Audio hacia modulador	Audio per il modulatore
AMLP	Audio mono lineair playback	Reproducción audio mono lineal	Audio lineare mono di riproduzione
AMLR	Audio mono lineair record	Grabación audio mono lineal	Audio lineare mono di registrazione
APH	Audio weergavekop	Cabeza de reproducción audio	Testina riproduzione audio
ARH	Audio opnamekop	Cabeza de grabación audio	Testina registrazione audio
ARIN	Audio rechts ingang extern	Entrada externa audio derecho	Ingresso esterno audio destro
AROU	Audio rechts uitgang extern	Salida externa audio derecho	Uscita esterna audio destro
BIAS	Biasstroom	Corriente de premagnetización	Corrente di premagnetizzazione
CLKD	Seriële klok deckelectronica	Reloj serie electrónica deck	Clock seriale deck electronics
CMO1/2	Capstan-combimotor 1/2	Motor combi capstan 1/2	Capstan combi motor (collegamento 1/2)
CMT	Coincidence mute	Mute coincidente	Segnale di identificazione
COD1/2/3	Code-schakelaar 1/2/3	Código conmutador 1/2/3	Codice commutatore 1/2/3
CREV	Capstan reverse	Inversión capstan	Capstan reverse
CSYNC	Synch impuls	Sincronismo	Sincronismo di fase
CTL	Regeling spoorsignaal	Señal de control de pista	Impulsi di controllo del nastro
DATD	Seriële data-deck-electronica	Datos serie electrónica deck	Dati seriali deck electronics
DS	Drop-out-onderdrukking	Supresión de drop-out	Soppressione del circuito drop-out
ES	Externe bron	Fuente externa	Sorgente esterna
FEH	Volledige-band-wiskop	Cabeza de borrado general	Testina di cancellazione totale
FFP	Feature frame pulse	Impulso de cuadro funciones especiales	Impulso di quadro artificiale
FMPV	FM weergave video-signaal	Reproducción señal FM video	Segnale video FM di riproduzione
FMRV	FM opname video-signaal	Grabación señal FM video	Segnale video FM di registrazione
FRP	Frame puls	Impulso de cuadro	Impulso di quadro
HMO	Koppentrommelmotor	Motor tambor de cabezas	Motore disco testine
HMO1/2/3	Koppentrommelmotor fase 1/2/3	Motor tambor de cabezas fase 1/2/3	Motore disco testine fase 1/2/3
HP1	Video-kopomschakelpuls	Impulso de conmutación de cabezas	Impulsi di commutazione testine
HSC	Derde videokop selectieregeling	Control selección tercera cabeza de video	Controllo selezione terza testina video
HSMS	Derde videokop selectiesignaal	Señal selección tercera cabeza de video	Segnale di selezione terza testina video
LED	Pulserend signaal voor LED	Señal pulsante para LED	Segnale pulsante per LED centrale
MFV	Mute front-end video	Mute front-end video	Muto video segnale front-end
MTA	Mute audio	Mute audio	Muto audio
OFP	OSD frame puls	Impulso de cuadro OSD	Impulso di quadro per OSD
ODAT	OSD seriële bus gegevens	Bus de datos serie OSD	Data bus seriale OSD
OCLK	OSD seriële bus clock	Bus de reloj serie OSD	Clock bus seriale OSD
OSTR	OSD 'strobe'	Señal strobe OSD	Abilitazione per OSD
OBSY	OSD aktief	OSD activo	OSD attivo
PACO	Spanning voor combi-unit	Tensión para unidad combi	Alimentazione per il modulatore
PAL	Audio lineair playback signaal	Señal de reproducción audio	Comando di riproduzione audio lineare
PCLK	Seriële 'clock' PIP	Reloj serie PIP	Clock seriale per PIP
PDAT	Seriële gegevens PIP	Datos serie PIP	Dati seriali per PIP
PBV	Playback video	Reproducción video	Comando riproduzione video
PFCO	Spanning voor antenneversterker	Tensión para amplificador antena	Alimentazione per amplificatore antenna
PIP	Beeld in beeld	Imagen en imagen	Immagine nell'immagine
POR	Power on reset	Reset de alimentación	Reset all'accensione
POS	Positiepuls	Impulso de posición	Impulsi di posizione disco testine
RAL	Audio lineair opnamesignaal	Señal de grabación audio lineal	Comando di registrazione audio lineare
RBK	Remmagneetsignaal	Señal freno magnético	Comando per freno magnetico
RCOF	HF-signaal van combi-unit naar front-end	Señal de unidad combi a front-end	Segnale RF dal modulatore al front-end
REC	Opnamebesturingssignaal	Señal de control de grabación	Comando di registrazione
REV	Opnamebesturingssignaal video	Señal de control de grabación de video	Comando di registrazione video
RVIN	Antenne-ingang	Entrada de antena	Segnale ingresso antenna
RP	Opnamebeveiligingssignaal	Señal de protección de grabación	Segnale protezione registrazione
RTA	'Rewind tacho'	Taco de rebobinado	Tacho por riavvolgimento
SCL2	IIC bus 2 klok	Bus reloj IIC 2	IIC bus 2 clock
SDA2	IIC bus 2 data	Bus datos IIC 2	IIC bus 2 dati
TAC	Capstan tacho	Taco de capstan	Tacho motore capstan
TAE	Bandeindedetectie	Detección final cinta	Rivelazione di fine nastro
TAH	'Head tacho'	Taco de cabeza	Tacho motore disco testine
TAS	Bandstartdetectie	Detección principio cinta	Rivelazione di inizio nastro
TMO1/2	Rijgmotor 1/2	Motor enhebrado 1/2	Motore di caricamento 1/2
TPC	Testbeeld controle	Imagen test	Comando segnale test
TRIV	Tracking-informatie video	Información tracking video	Informazione tracking video
VBS	Video-opname	Grabación video	Segnale video di registrazione
VFV	Videosignaal van 'front-end'	Señal de video del front-end	Segnale video dal front-end
VIN	Video-ingang extern	Entrada externa de video	Ingresso esterno segnale video
VMCO	Video naar de modulator	Video hacia demoduladores	Segnale video per demodulatori
VOUT	Video-uitgang extern	Salida externa de video	Uscita esterna segnale video
VSB	Video-weergave	Reproducción video	Segnale video di riproduzione
WTA	'Wind tacho'	Taco de bobinado	Tacho portabobine avvolgimento (destro)
YTP	witinhoud van de testbeelden	Contenido blanco de la imagen test	Bianco contenuto nel segnale test

	List of abbreviations	Liste der Abkürzungen	Abréviations
AEH	Audio erase head	Audio-Löschkopf	tête effacement son
AFV	Audio front-end video	Audio 'front-end' Video	frontal son, vidéo
ALIN1	Audio left input external	Audio links Eingang extern	entrée externe son gauche
ALOU	Audio left output external	Audio links Ausgang extern	sortie externe son gauche
AMCO	Audio to the modulator	Audio zum Modulator	unité combi son mono vers le modulateur
AMLP	Audio mono linear playback	Audio Mono Linear Playback	platine linéaire son mono
AMLR	Audio mono linear record	Audio Mono Linear Record	enregistrement linéaire son mono
APH	Audio playback head	Audio-Wiedergabekopf	tête lecture audio
ARH	Audio recording head	Audio-Aufnahmekopf	tête enregistrement son
ARIN	Audio right input external	Audio rechts Eingang extern	entrée externe son droite
AROU	Audio right output external	Audio rechts Ausgang extern	sortie externe son droite
BIAS	Bias current	Vormagnetisierungsstrom ('bias')	courant de prémagnétisation
CLKD	Serial clock deck electronics	Serieller Takt Deckelektronik	horloge sérielle du circuit de chromique
CMO1/2	Capstan combi motor 1/2/3	Capstan-Kombimotor 1/2	cabestan du moteur combi 1/2
CMT	Coincidence mute	'coincidence mute'	silencieux de coïncidence
COD1/2/3	Code switch 1/2/3	Code-Schalter 1/2/3	commutateur de code 1/2/3
CREV	Capstan reverse	Capstan 'reverse'	cabestan d'inversion
CSYNC	Sync impulse	Synchimpuls	sync
CTL	Control track signal	Spursignalregelung	régulation signal de piste
DATD	Serial data deck electronics	Serielle Daten Deckelektronik	données sérielles d'électronique console
DS	Drop-out suppression	Signalausfallunterdrückung	suppression drop-out
ES	External source	Externe Quelle	source externe
FEH	Complete tape erase head	Vollband-Löschkopf	tête d'effacement totalité de la bande
FFP	Feature frame pulse	'feature frame pulse'	impulsion de montage spécial
FMPV	FM playback video signal	FM-Wiedergabe Videosignal	signal FM de lecture image
FMRV	FM recording video signal	FM-Aufnahme Videosignal	signal FM d'enregistrement image
FRP	Frame pulse	'frame pulse'	impulsion image
HMO	Head drum motor	Kopftrommelmotor	moteur du tambour de tête
HMO1/2/3	Head drum motor phase 1/2/3	Kopftrommelmotor Phase 1/2/3	moteur du tambour de tête, phase 1/2/3
HP1	Video head switching pulse	Videokopfumschaltimpuls	impulsion image de commutation de tête
HSC	Third video head selection control	3. Videokopf-Auswahlregelung	réglage de sélection de la3ème tête vidéo
HSMS	Third video head selection signal	3. Videokopf-Auswahlsignal	signal de sélection de la 3ème tête vidéo
LED	Pulsating signal for LED	Pulsierendes Signal für LED	signal pulsé pour DEL
MFV	Mute front-end video	'mute front-end' Video	silencieux image du frontal
MTA	Mute audio	'mute' Audio	silencieux son
OFP	OSO frame pulse	OSD-Bildimpuls	impulsion image OSD
ODAT	OSD serial bus data	OSD Serieller Bus Daten	données sérielle OSD de bus
OCLK	OSD serial bus clock	OSD Serieller Bus Clock	horloge sérielle OSD de bus
OSTR	OSD 'strobe'	OSD Strobe	sonde OSD
OBSY	OSD active	OSD Aktiv	OSD actif
PACO	Voltage for combi unit	Spannung für Kombi-Einheit	tension pour l'unité combi
PAL	Audio linear playback signal	Audiolinear-Wiedergabesignal	signal linéaire de lecture
PCLK	Serial clock PIP	Serieller Takt PIP	horloge sérielle PIP
PDAT	Serial data PIP	Serieller Daten PIP	données sérielles PIP
PBV	Playback video	Wiedergabe Video	lecture image
PFCO	Voltage for aerial amplifier	Spannung für Antennenverstärker	tension d'ampli d'antenne
PIP	picture in picture	Bild im Bild	incrustation
POR	Power on reset	'power on reset'	remise à zéro
POS	Position pulse	Position Impuls	impulsion de positionnement
RAL	Audio linear recording signal	Audiolinear-Aufnahmesignal	signal linéaire d'enregistrement son
RBK	Brake magnet signal	Bremsmagnetsignal	signal de l'aimant de freinage
RCOF	RF signal combi unit to front end	HF-Signal Kombi-Einheit zu 'front-end'	signal HF de l'unité combi au frontal
REC	Recording control signal	Aufnahme-Steuersignal	signal de commande d'enregistrement
REV	Recording control signal video	Aufnahme Stenersignal Video	signal de commande enregistrement image
RVIN	Aerial input	Antenneneingang	entrée antenne
RP	Recording protection signal	Aufnahmeschutzsignal	signal de protection d'enregistrement
RTA	Rewind tacho	'rewind tacho'	tachymètre de rebobinage
SCL2	IIC bus 2 clock	IIC-Bus 2 Takt	horloge bus 2 IIC
SDA2	IIC bus 2 data	IIC-Bus 2 Daten	données bus 2 IIC
TAC	Capstan tacho	Capstan Tacho	tachymétre du cabestan
TAE	End of tape detection	Bandende-Erkennung	repérage fin de bande
TAH	Head tacho	'head tacho'	tachymètre tête
TAS	Beginning of tape detection	Bandanlauferkennung	repérage début de bande
TMO1/2	Threading motor 1/2	Fädelmotor 1/2	moteur d'enfilage 1/2
TPC	Test picture check	Testbildkontrolle	contrôle mire de test
TRIV	Tracking information video	'tracking'-Information Video	palpage information image
VBS	Video recording	Video-Aufnahme	reproduction image
VFV	Video signal of front-end	Videosignal von 'front-end'	signal image du frontal
VIN	Video input external	Video-Eingang extern	entrée vidéo externe
VMCO	Video to the demodulator	Video zum Modulator	image mono de l'unité combi
VOUT	Video output external	Video-Ausgang extern	sortie vidéo externe
VSB	Video playback	Video-Wiedergabe	reproduction vidéo
WTA	Wind tacho	'wind tacho'	tachymétre bobinage
YTP	White contents of the test pictures	Weissinhalt der Testbildes	contenu blanc de la mire de test

POWER SUPPLY **JSM**

P1	A1
P2	B1
1101	A7
2101	A7
2103	A5
2105	C7
2107	C6
2108	C7
2113	B4
2121	C5
2124	C5
2135	A4
2136	B5
2202	A1
2203	A1
2204	A1
2207	B1
2208	B2
2210	B2
2217	B1
2230	B1
2236	C3
2238	C3
2244	C1
2254	C1
2260	A2
2261	A1
3102	A7
3103	A6
3104	A6
3105	C7
3106	B7
3107	C6
3109	B7
3112	A6
3120	C5
3121	C6
3123	B4
3124	C6
3125	B5
3126	C5
3127	B6
3131	B5
3134	B5
3140	B6
3201	A2
3217	B1
3230	B2
3236	C3
3238	C2
3240	C2
3242	C2
3243	C2
3244	C2
3246	C3
3247	C4
3250	C2
3251	C2
3254	C1
3255	C1
3257	C1
3258	B1
5103	B7
5105	B7
5107	B7
5114	A3
5131	A5
5134	B5
5204	A2
5207	B1
5208	B1
5215	A3
5230	A2
5263	A1
5264	A1
6110	B6
6110	B6
6112	B6
6113	B6
6120	C5
6123	C4
6124	C5
6127	B6
6129	B5
6136	B5
6137	B5
6138	B6
6207	B3
6208	B3
6215	B2
6230	A2
6235	C3
6236	C3
6237	C2
6241	C3
6251	C1
6252	C1
6253	C1
6260	A3
7121	C6
7124	C4
7125	B5
7126	C5
7135	A5
7243	C2
7246	C4
7253	C1
9001	A1
9002	A1
9003	A1
9004	B2
9005	A4
9006	C5
9007	C7
9008	B7
9009	B2
9011	A1
9012	B5



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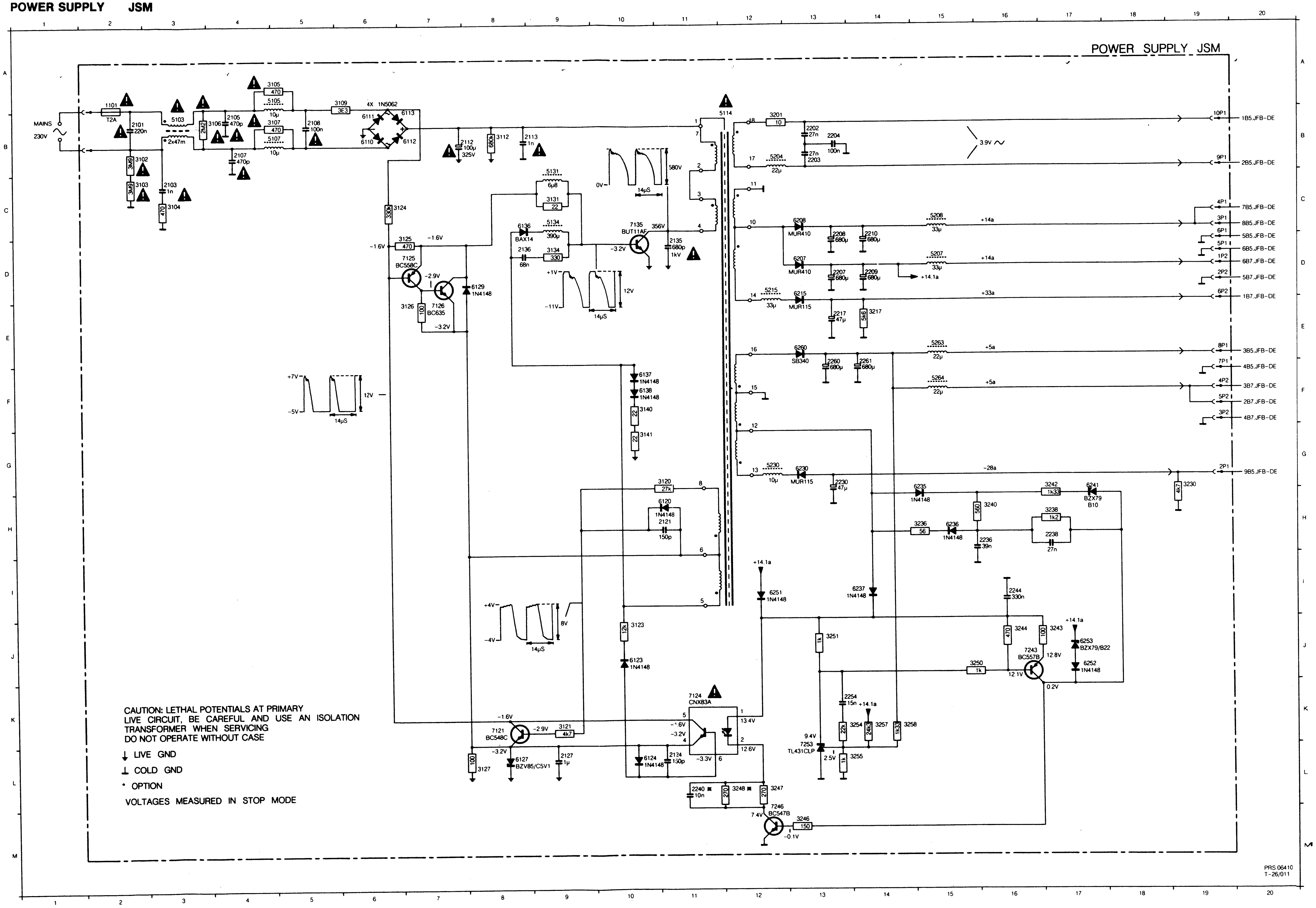
POWER SUPPLY JSM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A
B
C
D
E
F
G
H
I
J
K
L
M
POWER SUPPLY JSM
MAINS
230V
1101
T2A
2101
220n
3102
3M9
3103
3M9
2103
1n
3104
470
5103
2x47m
2M2
3106
2105
470p
2107
470p
3105
470
5105
10µ
3107
470
5107
10µ
2108
100n
3109
3E3
4X 1N5062
6111
6113
6110
6112
2112
100µ
325V
680k
3112
2113
1n
3124
330k
3125
470
-1.6V
-1.6V
7125
BC558C
-2.9V
7126
BC635
3126
100
-3.2V
6129
1N4148
5131
6µ8
3131
22
6136
BAX14
5134
390µ
2136
68n
3134
330
7135
BUT11AF
356V
-3.2V
2135
680p
1kV
0V
580V
14µS
+1V
-11V
12V
14µS
+7V
-5V
12V
14µS
6137
1N4148
6138
1N4148
3140
22
3141
22
5114
1
7
2
3
4
18
3201
10
2202
27n
2204
100n
27n
2203
17
5204
22µ
3.9V ∼
11
10
6208
MUR410
2208
680µ
2210
680µ
5208
33µ
+14a
6207
MUR410
2207
680µ
2209
680µ
5207
33µ
+14a
+14.1a
14
5215
33µ
6215
MUR115
2217
47µ
3217
5k6
+33a
16
6260
SB340
2260
680µ
2261
680µ
5263
22µ
+5a
15
5264
22µ
+5a
12
13
5230
10µ
6230
MUR115
2230
47µ
-28a
3230
4k7
10P1
1B5.JFB-DE
9P1
2B5.JFB-DE
4P1
7B5.JFB-DE
3P1
8B5.JFB-DE
6P1
5B5.JFB-DE
5P1
6B5.JFB-DE
1P2
6B7.JFB-DE
2P2
5B7.JFB-DE
6P2
1B7.JFB-DE
8P1
3B5.JFB-DE
7P1
4B5.JFB-DE
4P2
3B7.JFB-DE
5P2
2B7.JFB-DE
3P2
4B7.JFB-DE
2P1
9B5.JFB-DE
3120
27k
8
6120
1N4148
2121
150p
6
5
+4V
-4V
8V
14µS
3123
12k
6123
1N4148
7124
CNX83A
5
-1.6V
-3.2V
4
-3.3V
6
1
13.4V
2
12.6V
-1.6V
7121
BC548C
-2.9V
3121
4k7
-3.2V
6127
BZV85/C5V1
2127
1µ
3127
100
6124
1N4148
2124
150p
2240 *
10n
270
3248 *
270
3247
7246
BC547B
7.4V
3246
150
-0.1V
+14.1a
6251
1N4148
6235
1N4148
3242
1k33
6241
BZX79
B10
3240
560
3238
1k2
3236
56
6236
1N4148
2236
39n
2238
27n
6237
1N4148
2244
330n
3244
470
3243
100
+14.1a
6253
BZX79/B22
7243
BC557B
12.8V
3250
1k
12.1V
0.2V
6252
1N4148
3251
1k
2254
15n
+14.1a
3254
22k
3257
24k3
3258
1k33
9.4V
7253
TL431CLP
2.5V
3255
1k
PRS 06410
T-26/011

CAUTION: LETHAL POTENTIALS AT PRIMARY
LIVE CIRCUIT, BE CAREFUL AND USE AN ISOLATION
TRANSFORMER WHEN SERVICING
DO NOT OPERATE WITHOUT CASE

⏚ LIVE GND

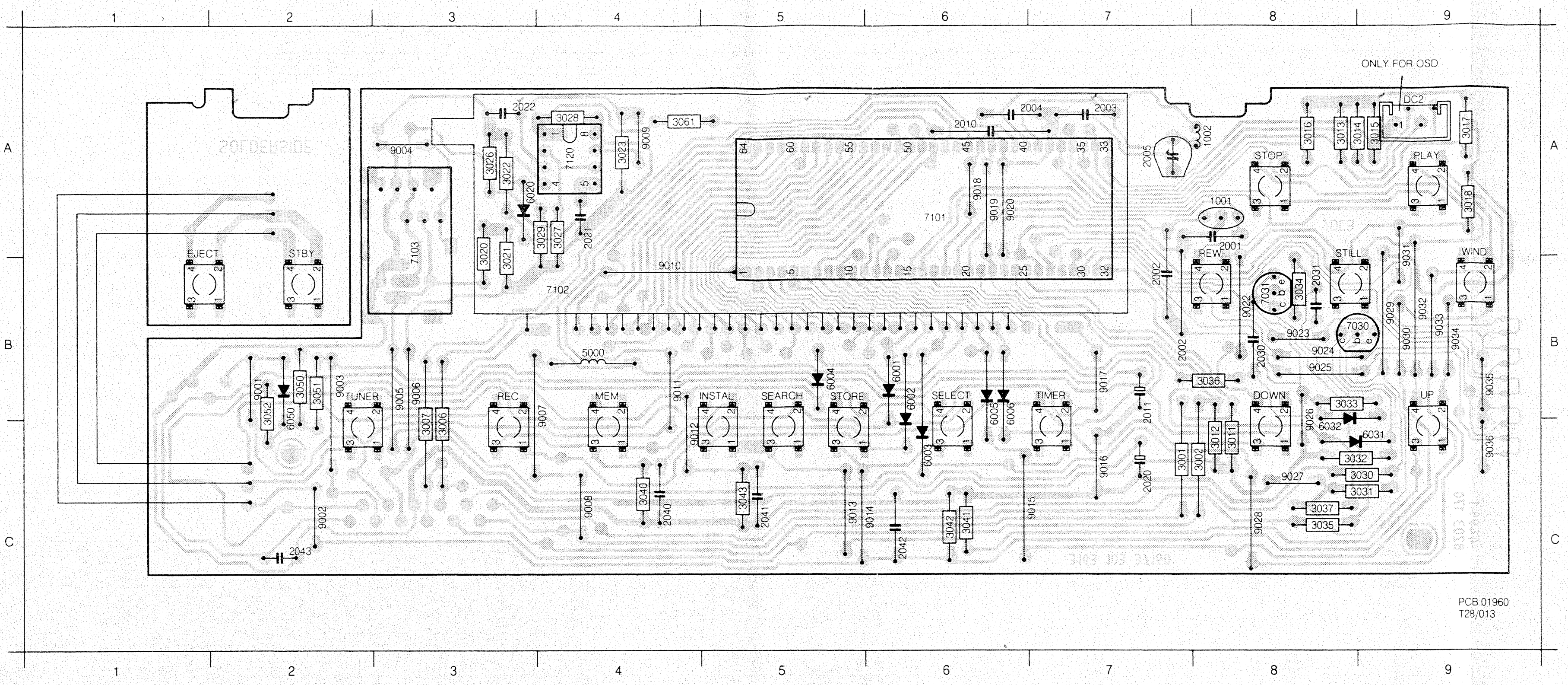
⊥ COLD GND

* OPTION

VOLTAGES MEASURED IN STOP MODE

1101	A2
2101	B2
2103	C3
2105	B4
2107	B4
2108	B5
2112	B7
2113	B8
2121	H11
2124	L11
2127	L9
2135	D11
2136	D8
2202	B13
2203	B13
2204	B13
2207	D13
2208	D13
2209	D14
2210	D14
2217	E13
2230	G13
2236	H16
2238	H17
2240	L11
2244	I 16
2254	K13
2260	F13
2261	F14
3102	B2
3103	C2
3104	C3
3105	A5
3106	B4
3107	B5
3109	A6
3112	B8
3120	G11
3121	K9
3123	J10
3124	C6
3125	D7
3126	E7
3127	L8
3131	C9
3134	D9
3140	F10
3141	G10
3201	B12
3217	E14
3230	H19
3236	H15
3238	H17
3240	H16
3242	G17
3243	J17
3244	J16
3246	M13
3247	L12
3248	L12
3250	J15
3251	J13
3254	K13
3255	L13
3257	K14
3258	K14
5103	B3
5105	A5
5107	B5
5114	B12
5131	B9
5134	C9
5204	B12
5207	D15
5208	C15
5215	D12
5230	G12
5263	E15
5264	F15
6110	B6
6111	B6
6112	B7
6113	B7
6120	H11
6123	J10
6124	L10
6127	L8
6129	D8
6136	C8
6137	F10
6138	F10
6207	D13
6208	C13
6215	D13
6230	G13
6235	H15
6236	H15
6237	I 14
6241	H17
6251	I 12
6252	J17
6253	J17
6260	E13
7121	K8
7124	K11
7125	D7
7126	E7
7135	C10
7243	J16
7246	M12
7253	L13

OPERATING PANEL JDCB, JDCD


1
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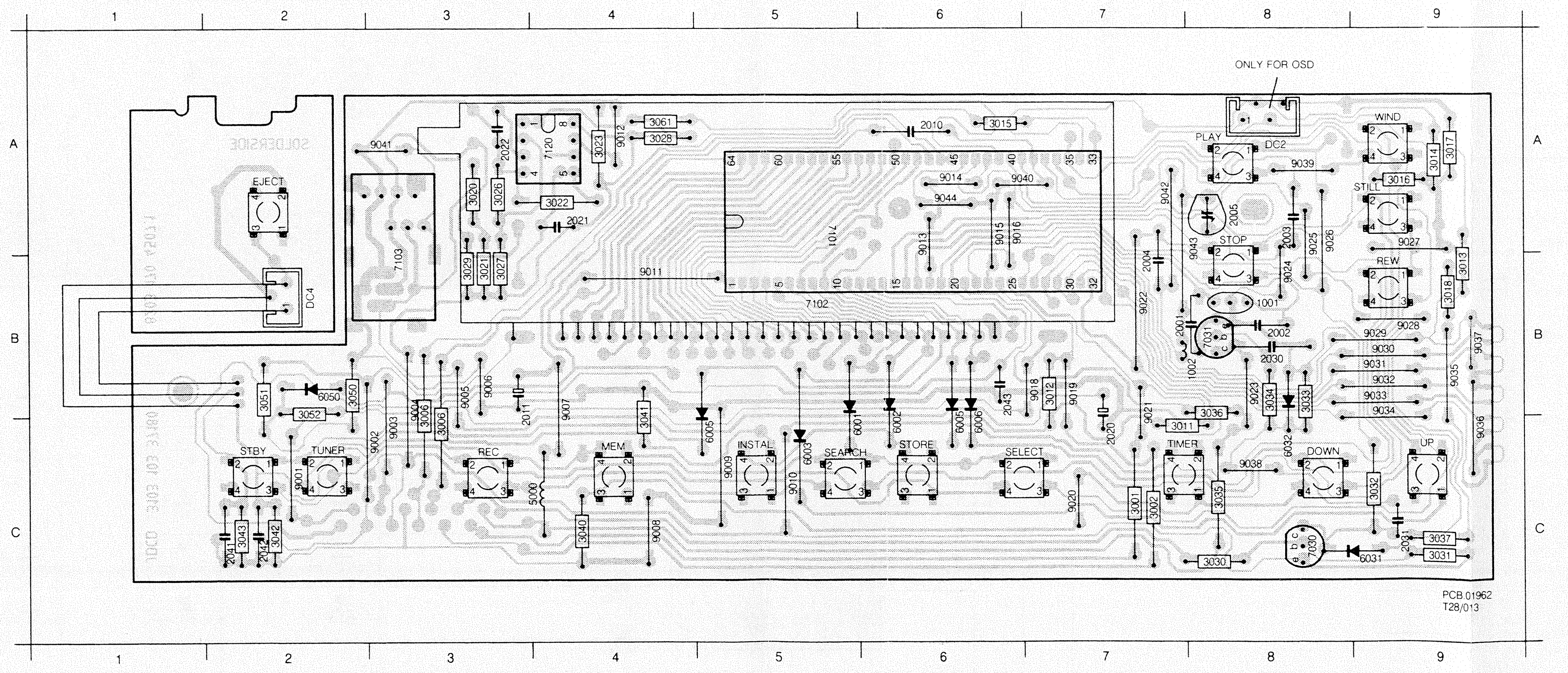
7
8
9
A
B
C
ONLY FOR OSD
DC2
SOLDERSIDE
EJECT
STBY
TUNER
REC
MEM
INSTAL
SEARCH
STORE
SELECT
TIMER
DOWN
UP
STOP
PLAY
REW
STILL
WIND
JDCB
7101
7102
7103
7120
7030
7031
1001
1002
5000
PCB.01960
T28/013

DC2	A9	3052	C2
1001	A8	3061	A4
1002	A8	5000	B4
2001	A8	6001	B6
2002	B7	6002	B6
2002	B7	6003	C6
2003	A7	6004	B5
2004	A6	6005	C6
2005	A7	6006	C6
2010	A6	6020	A3
2011	C7	6031	C9
2020	C7	6032	C8
2021	A4	6050	C2
2022	A3	7030	B8
2030	B8	7031	B8
2031	B8	7101	A6
2040	C4	7102	B4
2041	C5	7103	B3
2042	C6	7120	A4
2043	C2	9001	B2
3001	C7	9002	C2
3002	C8	9003	B2
3006	C3	9004	A3
3007	C3	9005	B3
3011	C8	9006	B3
3012	C8	9007	C4
3013	A8	9008	C4
3014	A9	9009	A4
3015	A9	9010	B4
3016	A8	9011	B4
3017	A9	9012	C4
3018	A9	9013	C5
3020	B3	9014	C6
3021	B3	9015	C7
3022	A3	9016	C7
3023	A4	9017	B7
3026	A3	9018	A6
3027	A4	9019	A6
3028	A4	9020	A6
3029	A4	9022	B8
3030	C8	9023	B8
3031	C8	9024	B8
3032	C8	9025	B8
3033	B8	9026	C8
3034	B8	9027	C8
3035	C8	9028	C8
3036	B8	9029	B9
3037	C8	9030	B9
3040	C4	9031	B9
3041	C6	9032	B9
3042	C6	9033	B9
3043	C5	9034	B9
3050	B2	9035	B9
3051	B2	9036	C9


1
2
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5
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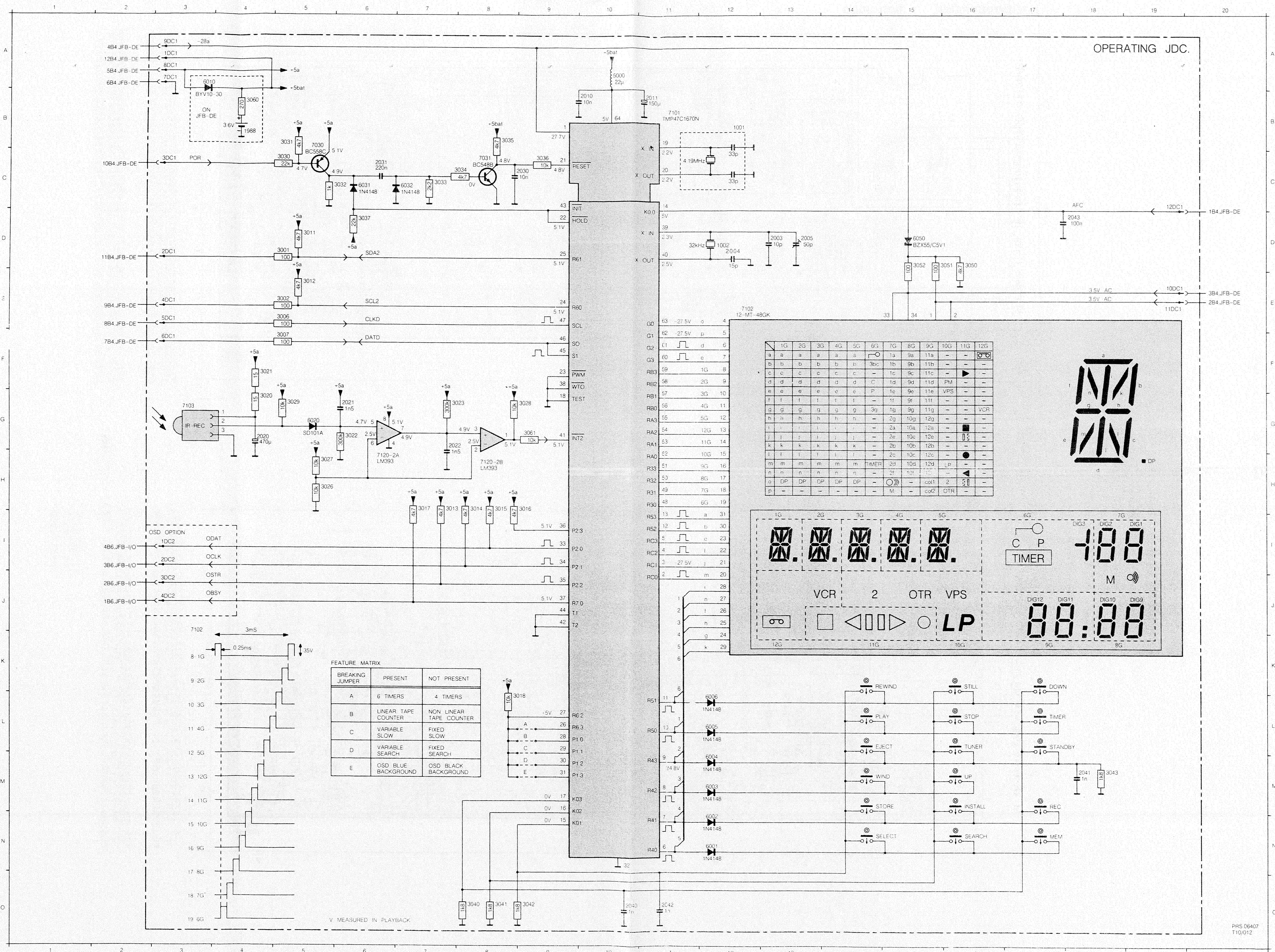
7
8
9
A
B
C
ONLY FOR OSD
DC2
DC4
SOLDERSIDE
EJECT
STBY
TUNER
REC
MEM
INSTAL
SEARCH
STORE
SELECT
TIMER
DOWN
UP
STOP
PLAY
REW
STILL
WIND
JDCD
7101
7102
7103
7120
7030
7031
1001
1002
5000
PCB.01962
T28/013

DC2	A8	3051	B2	9035	B9
DC4	B2	3052	C2	9036	C9
1001	B8	3061	A4	9037	B9
1002	B8	5000	C4	9038	C8
2001	B7	6001	C6	9039	A8
2002	B8	6002	C6	9040	A6
2003	A8	6003	C5	9041	A3
2004	B7	6005	C5	9042	A7
2005	A8	6005	C6	9043	B8
2010	A6	6006	C6	9044	A6
2011	C3	6031	C9		
2020	C7	6032	C8		
2021	A4	6050	B2		
2022	A3	7030	C8		
2030	B8	7031	B8		
2031	C9	7101	A5		
2041	C2	7102	B5		
2042	C2	7103	B3		
2043	C6	7120	A4		
3001	C7	9001	C2		
3002	C7	9002	C3		
3006	C3	9003	C3		
3006	C3	9004	C3		
3011	C7	9005	B3		
3012	B7	9006	B3		
3013	B9	9007	C4		
3014	A9	9008	C4		
3015	A6	9009	C5		
3016	A9	9010	C5		
3017	A9	9011	B4		
3018	B9	9012	A4		
3020	A3	9013	B6		
3021	B3	9014	A6		
3022	A4	9015	A6		
3023	A4	9016	A6		
3026	A3	9018	B7		
3027	B3	9019	B7		
3028	A4	9020	C7		
3029	B3	9021	C7		
3030	C8	9022	B7		
3031	C9	9023	B8		
3032	C9	9024	B8		
3033	B8	9025	B8		
3034	B8	9026	A8		
3035	C8	9027	A9		
3036	C8	9028	B9		
3037	C9	9029	B9		
3040	C4	9030	B9		
3041	C4	9031	B9		
3042	C2	9032	B9		
3043	C2	9033	B9		
3050	B2	9034	B9		

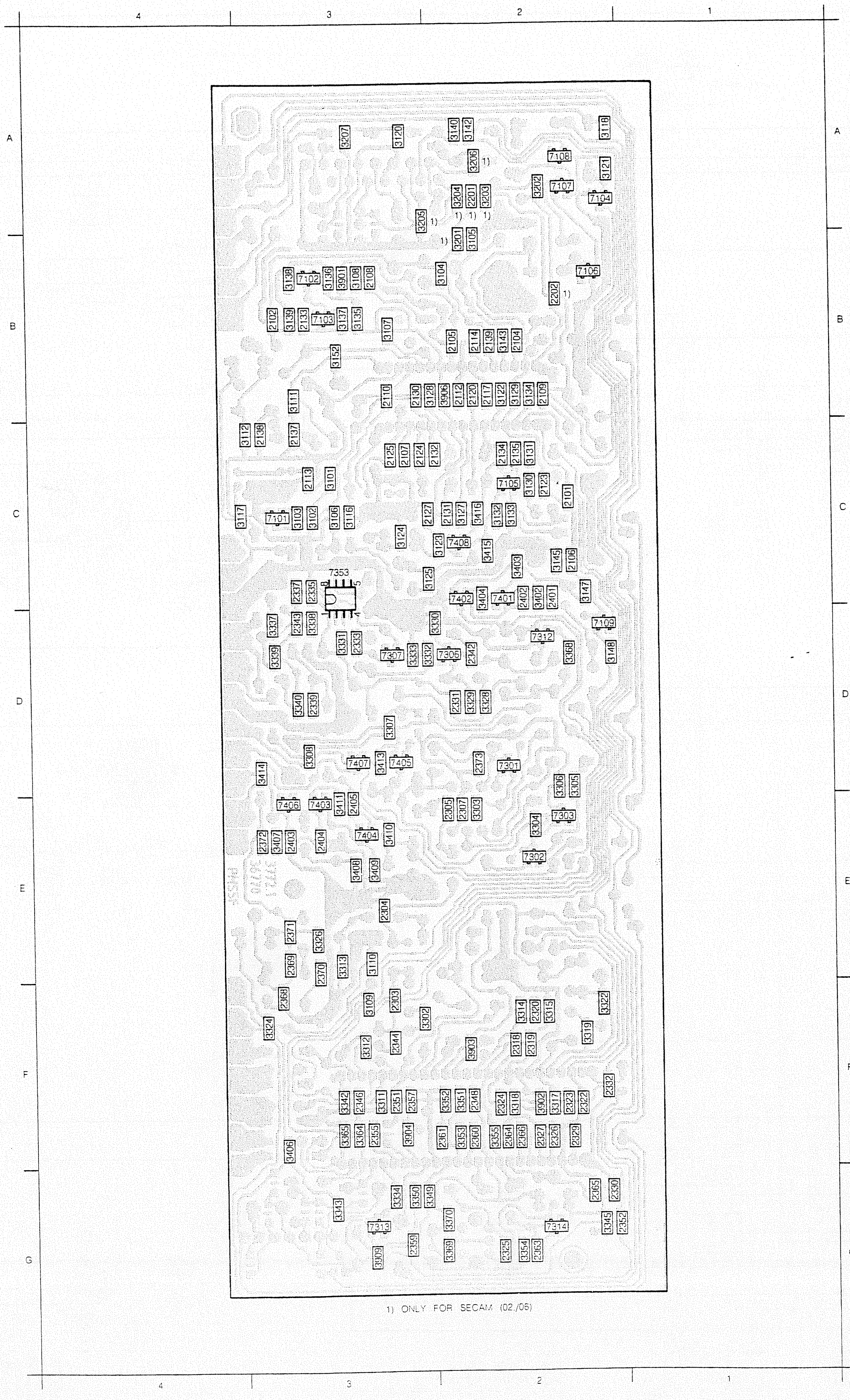
OPERATING PANEL JDCB, JDCD


OPERATING JDC.
7101
TMP47C1670N
7102
12-MT-48GK
7103
IR-REC
7030
BC558C
7031
BC548B
7120-2A
LM393
7120-2B
LM393
1001
4.19MHz
32kHz
6050
BZX55/C5V1
6010
BYV10-30
ON
JFB-DE
1988
OSD OPTION
ODAT
OCLK
OSTR
OBSY
POR
SDA2
SCL2
CLKD
DATD
AFC
3.5V AC
RESET
INIT
HOLD
PWM
WTO
TEST
INT2
X IN
X OUT
3mS
0.25ms
35V
8 1G
9 2G
10 3G
11 4G
12 5G
13 12G
14 11G
15 10G
16 9G
17 8G
18 7G
19 6G
REWIND
PLAY
EJECT
WIND
STORE
SELECT
STILL
STOP
TUNER
UP
INSTALL
SEARCH
DOWN
TIMER
STANDBY
REC
MEM
VCR
2
OTR
VPS
LP
C P
TIMER
M
DIG1
DIG2
DIG3
DIG9
DIG10
DIG11
DIG12
V MEASURED IN PLAYBACK
PRS 06407
T10/012

FEATURE MATRIX

BREAKING JUMPER	PRESENT	NOT PRESENT
A	6 TIMERS	4 TIMERS
B	LINEAR TAPE COUNTER	NON LINEAR TAPE COUNTER
C	VARIABLE SLOW	FIXED SLOW
D	VARIABLE SEARCH	FIXED SEARCH
E	OSD BLUE BACKGROUND	OSD BLACK BACKGROUND

1001	B12
1002	D12
2003	D13
2004	D12
2005	D13
2010	B10
2011	B11
2020	G4
2021	G6
2022	G7
2030	C8
2031	C6
2040	O10
2041	M18
2042	O11
2043	D18
3001	D5
3002	E5
3006	E5
3007	F5
3011	D5
3012	E5
3013	H7
3014	H8
3015	H8
3016	H9
3017	H7
3018	L8
3020	G4
3021	F4
3022	G6
3023	G7
3026	H5
3027	H5
3028	G9
3029	G5
3030	C5
3031	B5
3032	C5
3033	C7
3034	C8
3035	B8
3036	C9
3037	D6
3040	O8
3041	O8
3042	O9
3043	M18
3050	D16
3051	D15
3052	D15
3060	B4
3061	G9
5000	A10
6001	N12
6002	N12
6003	M12
6004	M12
6005	L12
6006	L12
6010	A3
6020	G5
6031	C6
6032	C7
6050	D15
7030	B5
7031	C8
7101	B11
7102	E12
7103	G3
7120	H6
7120	H8


1) ONLY FOR SECAM (02/05)

2101	C	2
2102	B	3
2104	B	2
2105	B	2
2106	C	2
2107	C	3
2108	B	3
2109	B	2
2110	B	3
2112	B	2
2113	C	3
2114	B	2
2117	B	2
2120	B	2
2123	C	2
2124	C	3
2125	C	3
2127	C	2
2130	B	3
2131	C	2
2132	C	2
2133	B	3
2134	C	2
2135	C	2
2137	C	3
2138	C	3
2139	B	2
2201	A	2
2202	B	2
2303	F	3
2304	E	3
2305	E	2
2307	E	2
2318	F	2
2319	F	2
2320	F	2
2322	F	2
2323	F	2
2324	F	2
2325	G	2
2326	F	2
2327	F	2
2329	F	2
2330	G	2
2331	D	2
2332	F	2
2333	D	3
2335	C	3
2337	C	3
2339	D	3
2342	D	2
2343	D	3
2344	F	3
2346	F	3
2348	F	2
2351	F	3
2352	G	2
2355	F	3
2357	F	3
2359	G	3
2360	F	2
2361	F	2
2363	G	2
2364	F	2
2365	G	2
2366	F	2
2368	F	3
2369	E	3
2370	E	3
2371	E	3
2372	E	3
2373	D	2
2401	C	2
2402	C	2
2403	E	3
2404	E	3
2405	E	3
3101	C	3
3102	C	3
3103	C	3
3104	B	2
3105	B	2
3106	C	3
3107	B	3
3108	B	3
3109	F	3
3110	E	3
3111	B	3
3112	C	3
3116	C	3
3117	C	3
3118	A	2
3120	A	3
3121	A	2
3122	B	2
3123	C	2
3124	C	3
3125	C	2
3127	C	2
3128	B	2
3129	B	2
3130	C	2
3131	C	2
3132	C	2
3133	C	2
3134	B	2
3135	B	3
3136	B	3
3137	B	3
3138	B	3
3139	B	3
3140	A	2
3142	A	2
3143	B	2
3145	C	2
3147	C	2
3148	D	2
3152	B	3
3201	B	2
3202	A	2
3203	A	2
3204	A	2
3205	A	2
3206	A	2
3207	A	3
3302	F	3
3303	E	2
3304	E	2
3305	D	2
3306	D	2
3307	D	3
3308	D	3
3311	F	3
3312	F	3
3313	E	3
3314	F	2
3315	F	2
3317	F	2
3318	F	2
3319	F	2
3322	F	2
3324	F	3
3326	E	3
3328	D	2
3329	D	2
3330	D	2
3331	D	3
3332	D	2
3333	D	3
3334	G	3
3337	D	3
3338	D	3
3339	D	3
3340	D	3
3342	F	3
3343	G	3
3345	G	2
3349	G	3
3350	G	3
3351	F	2
3352	F	2
3353	F	2
3354	G	2
3355	F	2
3364	F	3
3365	F	3
3368	D	2
3369	G	2
3370	G	2
3402	C	2
3403	C	2
3404	C	2
3406	F	3
3407	E	3
3408	E	3
3409	E	3
3410	E	3
3411	E	3
3413	D	3
3414	D	3
3415	C	2
3416	C	2
3901	B	3
3902	F	2
3903	F	2
3904	F	3
3906	B	2
3909	G	3
7101	C	3
7102	B	3
7103	B	3
7104	A	2
7105	C	2
7106	B	2
7107	A	2
7108	A	2
7109	D	2
7301	D	2
7302	E	2
7303	E	2
7306	D	3
7307	D	3
7312	D	2
7313	G	3
7314	G	2
7353	C	3
7401	C	2
7402	C	2
7403	E	3
7404	E	3
7405	D	3
7406	E	3
7407	D	3
7408	C	2

PCB.01551
T28/006

(D) JDC

Einstellungen

Uhrenfrequenzabgleich (2005)

- Gerät vom Netz trennen.
- Frequenzzähler an Pin 33 von 7101 anschliessen.
- Die Tasten STORE, SEARCH und TIMER gleichzeitig drücken.
- Gerät mit Netz verbinden.
- Mit Massekabel mindestens 14x an R3006 antippen.
- Das Display des Gerätes muss finster sein und am Frequenzzähler liegt ein Rechtecksignal mit 5 V an.
- C2005 auf 47,36328 msec ± 120 msec einstellen.

(F) JDC

Réglages

Réglage de la fréquence d'horloge (2005)

- Déconnecter l'appareil du secteur.
- Brancher le fréquencemètre à la broche 33–7101.
- Pression simultanée des touches "mémorisation", "reserche" et "minuterie".
- Mettre l'appareil au secteur.
- A l'aide du câble de masse, toucher au moins 14x R3006.
- L'afficheur doit être noir, et sur le fréquencemètre on mesure un signal rectangulaire de 5V.
- Ajuster C2005 à 47,36328 ms ± 120 ns.

(I) Regolazioni JDC

L'accordo frequenza d'orologio (2005)

- staccare l'apparecchio dall'alimentazione
- collegare il contatore di frequenza a Pin 33 di 7101
- premere contemporaneamente i tasti "STORE, SEARCH,TIMER"
- collegare l'apparecchio all'alimentazione
- con un puntale collegato a massa, toccare 14 volte la R3006
- il display diventa buio
- una forma d'onda quadra con ampiezza 5V viene applicata al contatore
- regolare C2005 per avere 47,36328 msec ± 120 nsec

(GB) JDC

Adjustments

Setting the clock frequency (2005)

- Disconnect the set from the mains.
- Connect a frequency counter to pin 33 of 7101.
- Press the keys "STORE", "SEARCH" and "TIMER" simultaneous.
- Connect the set to the mains.
- Tip R3006 at least 14 times with the earth cable.
- The display of the set should be dark and a 5 V square–wave signal has been applied to the frequency counter.
- Set C2005 at 47.36328 ms ± 120 ns.

(NL) JDC

Instellingen

Instellen van de klokfrequentie (2005)

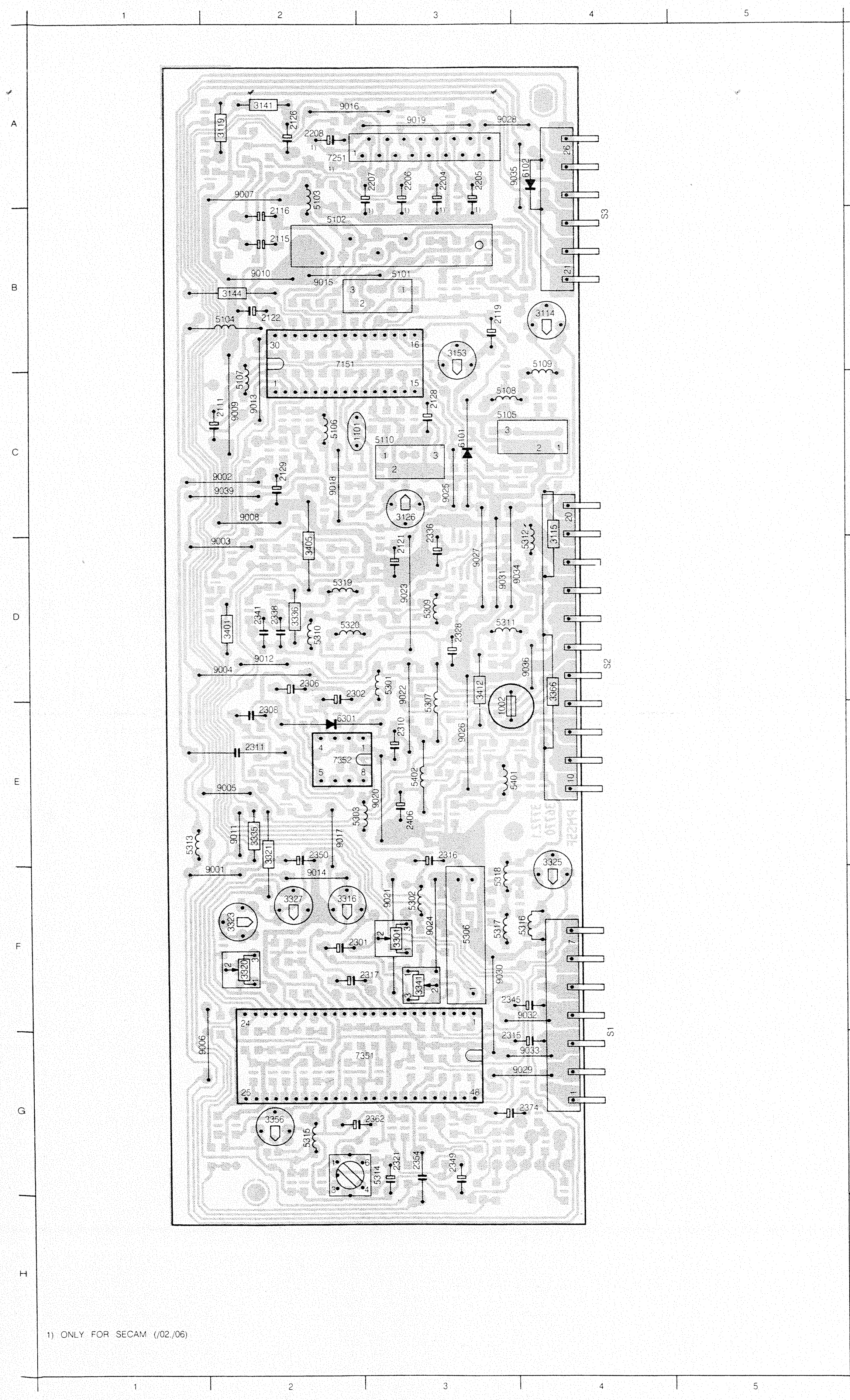
- Apparaat van het lichtnet scheiden.
- Frequentiemeter aan pen 33 van 7101 aansluiten.
- De toetsen "STORE", "SEARCH" en "TIMER" gelijktijdig drukken.
- Apparaat op lichtnet aansluiten.
- Met massakabel minstens 14x aan R3006 aantippen.
- Het display van het apparaat moet donker zijn en aan de frequentiemeter ligt een blokvormig signaal met 5 V aan.
- C2005 op 47,36328 ms ± 120 ns instellen.

(E) Ajustes JDC

Compensación frecuencia del reloj (2005)

- Desconecte el aparato de la red.
- Conecte el contador de frecuencia al Pin 33 de 7101.
- Pulse las teclas STORE, SEARCH y TIMER simultaneamente.
- Conecte el aparato a la red.
- Toque ligeramente al menos 14 veces R 3006 con un cable conectado a masa, a fin de conseguir que el display quede apagado.
- Una vez apagado el display, el Pin 33 entregará una señal TTL al contador de frecuencia.
- Ajuste C2005 hasta obtener una lectura de 47,36328 msec+/-120 nsec.

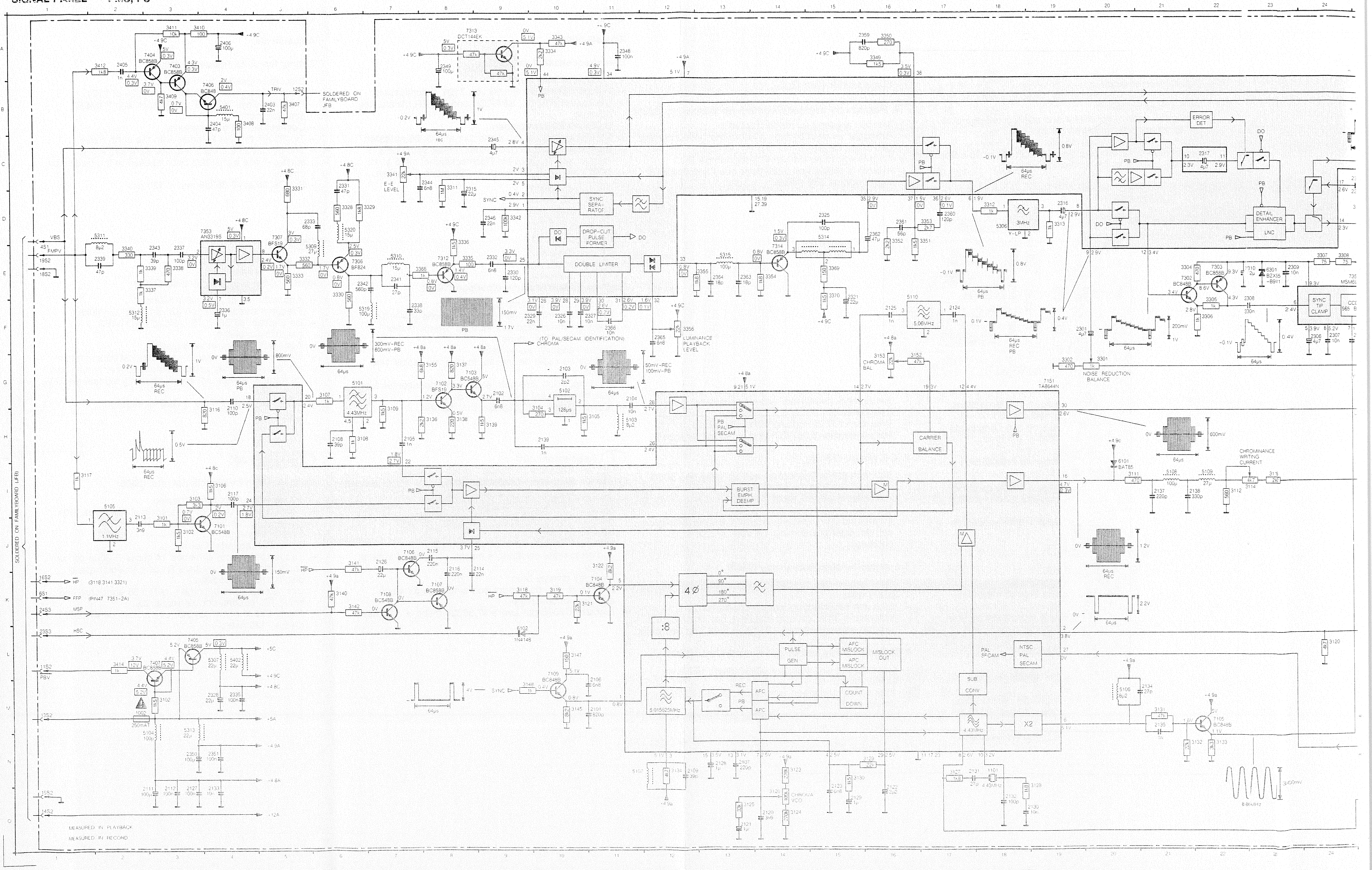
SIGNAL PANEL PMS, PS

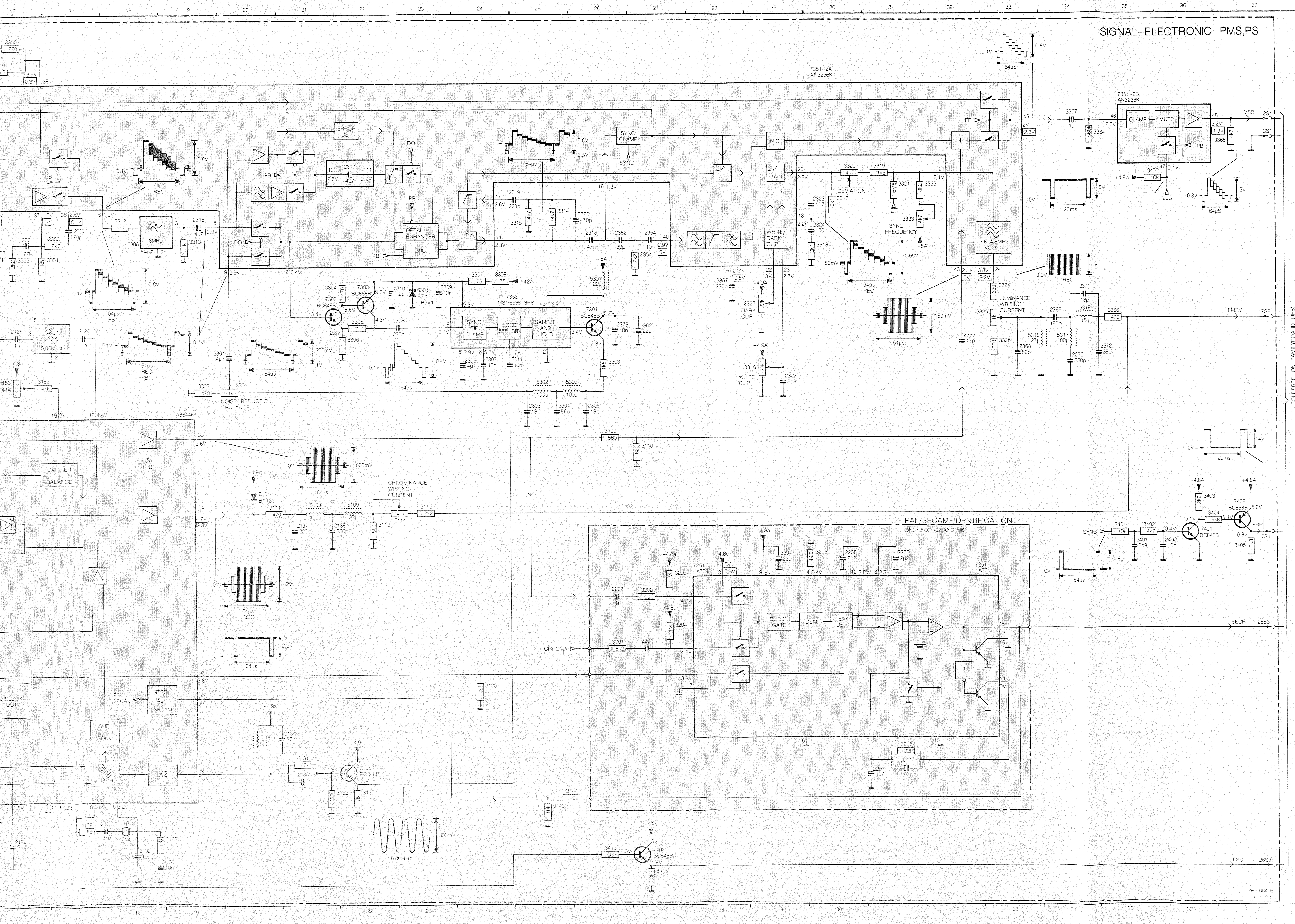

1
2
3
4
5
A
B
C
D
E
F
G
H
3119
3141
2126
9016
9019
9028
2208
7251
2207
2206
2204
2205
9035
6102
9007
2116
5103
5102
2115
S3
26
21
9010
9015
5101
3144
2122
5104
2119
3114
7151
30
16
1
15
3153
5107
9009
2111
9013
2128
5109
5108
5105
5106
1101
5110
6101
2129
9002
9039
9018
9025
3126
9008
3405
2121
2336
9003
3115
20
5312
9027
9031
9034
5319
9023
5309
3401
2341
2338
3336
5310
5320
2328
5311
9012
9004
2306
2302
5301
9022
3412
9036
3366
S2
1002
2308
6301
5307
9026
2310
7352
2311
10
9005
5402
5401
9020
5303
2406
5313
9011
3335
3321
9017
2316
2350
9001
9014
3325
5318
9021
3327
3316
5302
3323
3301
9024
5306
5317
5316
7
2301
3320
2317
3341
9030
2345
9032
2315
9033
S1
9006
7351
24
25
48
9029
2374
3356
2362
5315
5314
2321
2354
2349

1) ONLY FOR SECAM (/02,/06)

1002	E	3
1101	C	2
2111	C	2
2115	B	2
2116	B	2
2119	B	3
2121	D	3
2122	B	2
2126	A	2
2128	C	3
2129	C	2
2204	A	3
2205	A	3
2206	A	3
2207	A	3
2208	A	2
2301	F	3
2302	D	2
2306	D	2
2308	E	2
2310	E	3
2311	E	2
2315	G	3
2316	E	3
2317	F	3
2321	G	3
2328	D	3
2336	C	3
2338	D	2
2341	D	2
2345	F	3
2349	G	3
2350	E	2
2354	G	3
2362	G	3
2374	G	4
2406	E	3
3114	B	4
3115	C	4
3119	A	2
3126	C	3
3141	A	2
3144	B	2
3153	B	3
3301	F	3
3316	F	2
3320	F	2
3321	E	2
3323	F	2
3325	E	4
3327	F	2
3335	E	2
3336	D	2
3341	F	3
3356	G	2
3366	D	4
3401	D	2
3405	D	2
3412	D	3
5101	B	3
5102	B	2
5103	A	2
5104	B	2
5105	C	3
5106	C	2
5107	C	2
5108	C	3
5109	B	4
5110	C	3
5301	D	3
5302	F	3
5303	E	2
5306	F	3
5307	D	3
5309	D	3
5310	D	2
5311	D	3
5312	D	4
5313	E	1
5314	G	3
5315	G	2
5316	F	4
5317	F	3
5318	F	3
5319	D	2
5320	D	2
5401	E	3
5402	E	3
6101	C	3
6102	A	4
6301	E	2
7151	B	2
7251	A	2
7351	G	3
7352	E	2
9001	F	2
9002	C	2
9003	D	2
9004	D	2
9005	E	2
9006	G	1
9007	A	2
9008	C	2
9009	C	2
9010	B	2
9011	E	2
9012	D	2
9013	C	2
9014	F	2
9015	B	2
9016	A	2
9017	E	2
9018	C	2
9019	A	3
9020	E	3
9021	F	3
9022	D	3
9023	D	3
9024	F	3
9025	C	3
9026	E	3
9027	D	3
9028	A	3
9029	G	4
9030	F	3
9031	D	3
9032	F	4
9033	G	4
9034	D	4
9035	A	4
9036	D	4
9039	C	2
S1	F	4
S2	D	4
S3	A	4

SIGNAL PANEL PMS, PS


SOLDERED ON FAMILYBOARD (JFB)
SOLDERED ON FAMILYBOARD JFB
VBS
FMPV
SYNC SEPA-RATOR
DROP-OUT PULSE FORMER
DO
DOUBLE LIMITER
ERROR DET
DETAIL ENHANCER
LNC
SYNC TIP CLAMP
Y-LP
3MHz
NOISE REDUCTION BALANCE
E-E LEVEL
LUMINANCE PLAYBACK LEVEL
CHROMA BAL
(TO PAL/SECAM IDENTIFICATION) CHROMA
4.43MHz
5.06MHz
1.1MHz
CARRIER BALANCE
BURST EMPH DEEMP
PB PAL SECAM
CHROMINANCE WRITING CURRENT
7151 TA8644N
4Ø
0° 90° 180° 270°
:8
PULSE GEN
AFC MISLOCK
APC MISLOCK
MISLOCK OUT
COUNT DOWN
REC PB AFC APC
5.015625MHz
SUB CONV
4.43MHz
X2
NTSC PAL SECAM
PAL SECAM
CHROMA VCO
8.8MHz
HP
FFP
MSP
HSC
PBV
(3118,3141,3321)
(PIN47 7351-2A)
+5C
+4.9C
+4.8C
+5A
+4.9A
+4.8A
-12A
250mAT
64µs REC
64µs PB
300mV-REC 600mV-PB
50mV-REC 100mV-PB
MEASURED IN PLAYBACK
MEASURED IN RECORD


SIGNAL-ELECTRONIC PMS,PS
7351-2A
AN3236K
7351-2B
AN3236K
ERROR DET
DETAIL ENHANCER
LNC
SYNC CLAMP
SYNC
NC
MAIN
WHITE/ DARK CLIP
DEVIATION
SYNC FREQUENCY
3.8-4.8MHz VCO
CLAMP
MUTE
VSB
2S1
3S1
FMRV
17S2
FFP
FRP
7S1
SECH
25S3
FSC
26S3
7352
MSM6955-3RS
SYNC TIP CLAMP
CCD 565 BIT
SAMPLE AND HOLD
NOISE REDUCTION BALANCE
7151
TA8644N
CARRIER BALANCE
CHROMINANCE WRITING CURRENT
LUMINANCE WRITING CURRENT
DARK CLIP
WHITE CLIP
REC
PB
PAL/SECAM-IDENTIFICATION
ONLY FOR /02 AND /06
7251
LA7311
BURST GATE
DEM
PEAK DET
CHROMA
NTSC PAL SECAM
PAL SECAM
SUB CONV.
X2
4.43MHz
5.06MHz
3MHz Y-LP
AMISLOCK OUT
7105 BC848B
7301 BC848B
7302 BC848B
7303 BC858B
7401 BC848B
7402 BC858B
7408 BC848B
6101 BAT85
6301 BZX55 -B9V1
8.86MHz
300mV
600mV
150mV
64μs
20ms
SOLDERED ON FAMILYBOARD (JFB)
PRS 06405
T07 9012

1101	N18
2101	M11
2102	G9
2103	G10
2104	G11
2105	H7
2106	M11
2107	N13
2108	H6
2109	N12
2110	G4
2113	J2
2114	K8
2115	J8
2116	K8
2117	I4
2120	O14
2121	O13
2122	O16
2123	O15
2124	F17
2125	F16
2126	J7
2128	N13
2129	O15
2130	O18
2131	N17
2132	O18
2134	M21
2135	M21
2137	I21
2138	I21
2139	H10
2201	K27
2202	J26
2204	J29
2205	J30
2206	J31
2207	M31
2208	M31
2301	F19
2302	F27
2303	G25
2304	G25
2305	G26
2306	F24
2307	F24
2308	F23
2309	E23
2310	E22
2311	F24
2315	D8
2316	D19
2317	C22
2318	D26
2319	C25
2320	D26
2321	F15
2322	G29
2323	D30
2324	D30
2325	D15
2326	F10
2327	F10
2329	F9
2330	E9
2331	C6
2332	E9
2333	D5
2336	F4
2337	E3
2338	F7
2339	E2
2341	E7
2342	E6
2343	E3
2344	C8
2345	C9
2346	D9
2348	A11
2349	A8
2352	D26
2354	D27
2354	D27
2355	F32
2357	E28
2359	A16
2360	D17
2361	D16
2362	D16
2363	E13
2364	E13
2365	F12
2366	F11
2367	B34
2368	F33
2369	E34
2370	F34
2371	E34
2372	F35
2373	F26
2401	I35
2402	I36
2403	B5
2404	B4
2405	A2
2406	A4
3101	J3
3102	J3
3102	M3
3103	I3
3104	H10
3105	H11
3106	I4
3107	G6
3108	H6
3109	G26
3109	H7
3110	H27
3111	I20
3112	I22
3114	I23
3115	I23
3116	H4
3117	I1
3118	K9
3119	K10
3120	L24
3121	K10
3122	J11
3123	N14
3124	O14
3125	O13
3126	O14
3127	N17
3128	O18
3129	N16
3130	N15
3131	M21
3132	N21
3133	N22
3134	N12
3136	H8
3137	G8
3138	H8
3139	H9
3140	K6
3141	J6
3142	K6
3143	N25
3144	N25
3145	M10
3147	L10
3148	M9
3152	G16
3153	G16
3155	G8
3201	K26
3202	J27
3203	J27
3204	K27
3205	J30
3206	M31
3301	G20
3302	G19
3303	F26
3304	E21
3305	F22
3306	F22
3307	E24
3308	E24
3311	D8
3312	D18
3313	D19
3314	D25
3315	D24
3316	F29
3317	D30
3318	D30
3319	C31
3320	C30
3321	C31
3322	C32
3323	D31
3324	E33
3325	E33
3326	F33
3327	E29
3328	D6
3329	D6
3330	E6
3331	D5
3332	E5
3333	E5
3334	A10
3335	E8
3336	E8
3337	E2
3338	E3
3339	E2
3340	E2
3341	C7
3342	D9
3343	A10
3349	A16
3350	A16
3351	E17
3352	E16
3353	D17
3354	E14
3355	E13
3356	F12
3364	B34
3365	C37
3366	E35
3368	E8
3369	E15
3370	F15
3401	I35
3402	I35
3403	I36
3404	I36
3405	J37
3406	C35
3407	B5
3408	B4
3409	B3
3410	A4
3411	A3
3412	A2
3415	O27
3416	O26
5101	G6
5103	H11
5105	I2
5106	M20
5107	N11
5108	I21
5109	I22
5110	F16
5301	E26
5302	G25
5303	G26
5306	D18
5309	E6
5310	E7
5311	D2
5312	F2
5314	D15
5315	E13
5316	F33
5317	F34
5318	E34
5319	F7
5320	D6
5401	B4
6101	I20
6102	L9
6301	E23
7101	J4
7102	G8
7103	G8
7104	K11
7105	M22
7106	J7
7107	K8
7108	K7
7109	L10
7151	G19
7251	J28
7251	J32
7301	E26
7302	E21
7303	E22
7306	E6
7307	D5
7312	E8
7313	A8
7314	E14
7351	A30
7351	B35
7352	E24
7353	D4
7401	I36
7402	I37
7403	A3
7404	A3
7405	L3
7406	B4
7407	L3
7408	O27

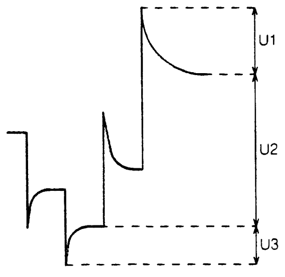


Fig. 1

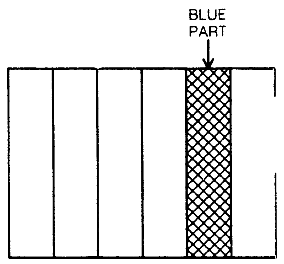


Fig. 2

MDA 01517
T28 006

(D) EINSTELLUNGEN

1. Chroma VCO (3126)

- Einen Frequenzmesser an Anschluss 7 von IC7352.
- Recorder in "Wiedergabe" (ohne Cassette) schalten (Testbild).
- Widerstand 3126 so einstellen, dass der Frequenzzähler 8,867237 MHz ± 40 Hz anzeigt.

2. E-E Pegel (3341)

- Einen Mustergenerator anschliessen und ein Vollweissbild dem Eurokonnektor (Programm E) zuführen.
- Recorder in die Stellung "Stop" bringen.
- An Konnektor 2S1 ein Oszilloskop schalten.
- Widerstand 3341 so einstellen, dass die Amplitude der Ausgangsspannung 1,8 Vss ± 0,05 Vss beträgt.

3. Luminanz-Wiedergabeniveau (3356)

- Ein auf eine Cassette aufgenommenes Vollweissbild wiedergeben.
- An Konnektor 2S1 ein Oszilloskop schalten.
- Widerstand 3356 so einstellen, dass die Amplitude des Ausgangssignals 1,8 Vss ± 0,05 Vss beträgt.

4. Balanceeinstellung des Rauschunterdrückers (3301)

- Ein auf eine Cassette aufgenommenes Vollweissbild wiedergeben.
- An Anschluss 10 von IC7351 (Kondensator 2317) ein Oszilloskop schalten.
- Mit Hilfe des Widerstands 3301 auf Minimale Signalamplitude einstellen.

5. Synchronisierungsfrequenz (3323)

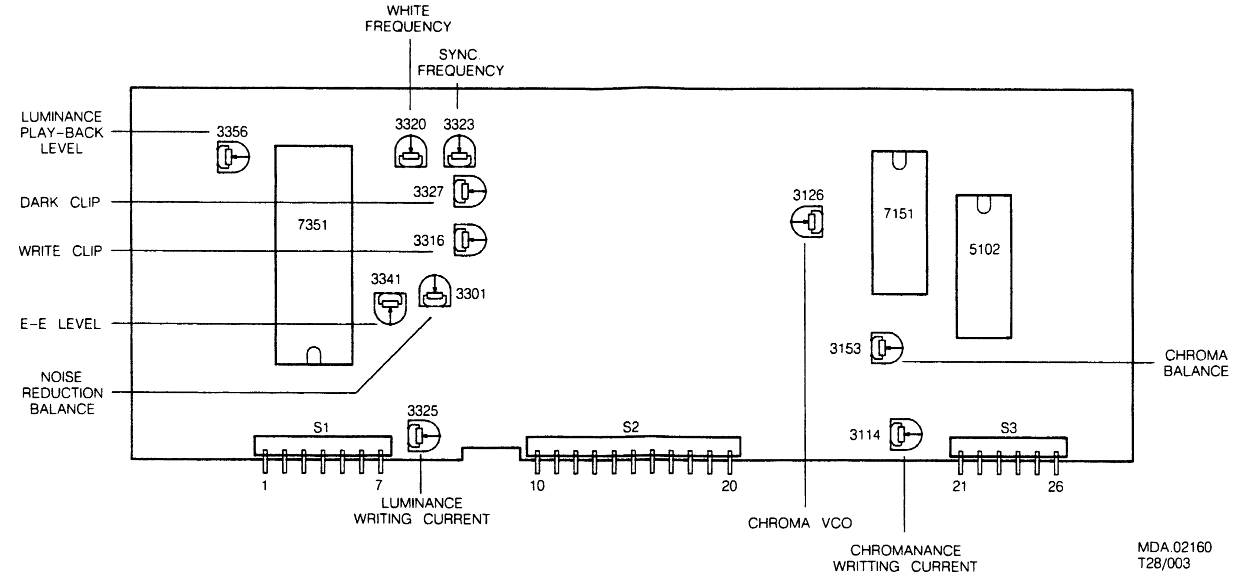
- Recorder in Aufnahmebetrieb bringen.
- Kein Signal einspeisen (Programm E).
- An den 'video current testpin' am Kopfverstärker einen Frequenzzähler schalten.
- Widerstand 3323 so einstellen, dass der Frequenzzähler 3,800 MHz ± 10 kHz anzeigt.

6. 'white clip, dark clip' (3316, 3327)

- Recorder in den Stoppbetrieb bringen.
- Einen Mustergenerator anschliessen und ein Vollweissbild zuführen.
- An Anschluss 20 von IC7351 ein Oszilloskop schalten.
- Widerstand 3316 so einstellen, dass U1/U2 = 0,87 ± 0,03 (siehe Bild 1).
- Widerstand 3327 so einstellen, dass U3/U2 = 0,55 ± 0,03 (siehe Bild 1).

7. Weissfrequenz (3320)

- Einen Mustergenerator anschliessen und ein Vollweissbild zuführen.
- Recorder in den Aufnahmebetrieb bringen.
- An den 'video current testpin' am Kopfverstärker ein Oszilloskop schalten.



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T28/003

- Widerstand 3320 so einstellen, dass der Frequenzzähler 4,600 MHz ± 10 kHz anzeigt.

8. Einstellung der Chrominanzbalance (3153)

- Einen Mustergenerator anschliessen und einen Farbbalken zuführen.
- Recorder in den Aufnahmebetrieb bringen.
- Das aufgenommene Bild wiedergeben.
- Recorder in den 'still'-Betrieb bringen.
- Widerstand 3153 so einstellen, dass die schwarzen Striche im blauen Teil des Farbbalkens verschwinden (siehe Bild 2).

9. Luminanz-Schreibstromeinstellung (3325)

- Recorder in Aufnahmebetrieb bringen.
- An den 'video current testpin' am Kopfverstärker ein Oszilloskop schalten.
- Kein Signal einspeisen (Programm E).
- Widerstand 3325 so einstellen, dass die Amplitude des Signals 320 mVss beträgt.

10. Chrominanz-Schreibstromeinstellung (3114)

- Recorder in den Aufnahmebetrieb bringen.
- An den 'video current testpin am Kopfverstärker ein Oszilloskop schalten.
- Einen Mustergenerator anschliessen und dem Eurokonnektor (Programm E) ein rotes Signal zuführen.
- Anschluss 24 von IC7351 mit +5a verbinden.
- Widerstand 3114 so einstellen, dass die Amplitude des Signals 80 mVss beträgt (−12 dB auf das Luminanzsignal bezogen).

(GB) ADJUSTMENTS

1. Chroma VCO (3126)

- Connect a frequency meter to pin 7 of IC7352.
- Select 'playback' mode (without cassette) (test pattern).
- Adjust resistor 3126 for a frequency counter reading of 8.867237 MHz ± 40 Hz.

2. E-E level (3341)

- Connect a pattern generator and apply a 100% white picture to the Euroconnector (programme E).
- Select 'Stop' mode.
- Connect an oscilloscope to connector 2S1.
- Adjust resistor 3341 until the amplitude of the output voltage is 1.8 Vpp ± 0.05 Vpp.

3. Luminance playback level (3356)

- Play a 100% white picture from a cassette.
- Connect an oscilloscope to connector 2S1.
- Adjust resistor 3356 until the amplitude of the output signal is 1.8 Vpp ± 0.05 Vpp.

4. Noise suppressor balance adjustment (3301)

- Play a 100% white picture from a cassette.
- Connect an oscilloscope to pin 10 of IC7351 (capacitor 2317).
- Adjust resistor 3301 for minimum signal amplitude.

5. Sync frequency (3323)

- Select 'record' mode.
- Apply no signal (programme E).
- Connect a frequency counter to the 'video current test pin' on the head amplifier.
- Adjust resistor 3323 until the frequency counter indicates 3.800 MHz ± 10 kHz.

6. White clip, dark clip (3316, 3327)

- Select 'Stop' mode.
- Connect a pattern generator and apply a 100% white picture.
- Connect an oscilloscope to pin 20 of IC7351.
- Adjust resistor 3316 so that U1/U2 = 0.87 ± 0.03 (see Fig. 1).
- Adjust resistor 3327 so that U3/U2 = 0.55 ± 0.03 see Fig. 1).

7. White frequency (3320)

- Connect a pattern generator and apply a 100% white picture.
- Select 'record' mode.
- Connect an oscilloscope to the 'video current test pin' on the head amplifier.
- Adjust resistor 3320 until the frequency counter reads 4.600 MHz ± 10 kHz.

8. Chrominance balance adjustment (3153)

- Connect a pattern generator and apply a colour bar.
- Select 'record' mode.
- Play the recorded picture.
- Select 'still' mode.
- Adjust resistor 3153 until the black stripes in the blue section of the colour bar disappear (see Fig. 2).

9. Luminance write current adjustment (3325)

- Select 'record' mode.
- Connect an oscilloscope to the 'video current test pin' on the head amplifier.
- Apply no signal (programme E).
- Adjust resistor 3325 for a signal amplitude of 320 mVpp.

10. Chrominance write current adjustment (3114)

- Select 'record' mode.
- Connect an oscilloscope to the 'video current test pin' on the head amplifier.
- Connect a pattern generator and apply a red signal to the Euroconnector (programme E).
- Connect pin 24 of IC7351 to +5a.
- Adjust resistor 3114 for a signal amplitude of 80 mVpp (−12 dB relative to the luminance signal).

(F) AJUSTAGES

1. VCO chroma (3126)

- Brancher un fréquencemètre à la broche 7 de l'IC7352.
- Mettre sur "lecture" (sans cassette) (mire d'essai).
- Régler le résistance 3126 pour que le fréquencemètre affiche 8,867237 MHz ± 40 Hz.

2. Niveau E-E (3341)

- Brancher un générateur de mire et apliquer une image à 100% de blanc à l'Euroconnecteur (programme E).
- Mettre le lecteur sur "stop".
- Brancher un oscilloscope au connecteur 2S1.
- Ajuster la résistance 3341 de manière que l'amplitude de la tension de sortie atteigne 1,8 Vcc ±0,05 Vcc.

3. Niveau luminance en lecture (3356)

- Passer une cassette avec une image à 100 % de blanc.
- Brancher un oscilloscope au connecteur 2S1.
- Ajuster la résistance 3356 de manière que l'amplitude du signal de sortie atteigne 1,8 Vcc ± 0,05Vcc.

4. Réglage de l'équilibre du réducteur de bruit (3301)

- Passer une cassette avec une image à 100 % de blanc.
- Brancher un oscilloscope sur la broche 10 de l'IC7351 (condensateur 2317).
- Ajuster la résistance 3301 de manière que l'amplitude du signal soit minimale.

5. Fréquence sync. (3323)

- Mettre l'appareil au mode "record".
- Ne pas appliquer de signal (programme E).
- Brancher un fréquencemètre sur la broche d'essai "courant vidéo" de l'ampli de tête.
- Ajuster la résistance 3323 pour que le fréquencemètre affiche 3,800 MHz ± 10 kHz.

6. Crête du blanc, crête du noir (3316,3327)

- Mettre l'appareil au mode "stop".
- Brancher un générateur de mire et appliquer une image à 100% de blanc.
- Brancher un oscilloscope à la broche 20 de l'IC 7351.
- Ajuster la résistance 3316 pour que U1/U2 = 0,87 ± 0,03 (voir fig.1).
- Ajuster la résistance pour que U3/U2 = 0,55 ± 0,03 (voir fig.1).

7. Fréquence du blanc (3320)

- Brancher un générateur de mire et appliquer une mire à 100% de blanc.
- Mettre l'appareil au mode "record"
- Brancher un oscilloscope à la broche "video current" sur l'ampli de tête.
- Ajuster la résistance 3320 pour que le fréquencemètre affiche 4,600 MHz ± 10 kHz.

8. Régla

- Branch
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- Ajuste
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  dispar

9. Régla

- Mettre
- Branch
  de l'am
- Ne pas
- Ajuste
  signal

10. Régla

- Mettre
- Branch
  de l'am
- Branch
  rouge
- Relier
- Ajuster
  signal
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(NL)

1. Chrom

- Sluit e
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- Sluit e
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3. Lumina

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- Sluit e
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4. Balansi

- Geef e
  beeld
- Sluit e
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  minima

5. Sync-fr

- Recorc
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- Sluit e
  testpin
- Weerst
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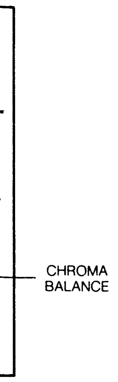

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2S1.
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ent (3301)

sette.
C7351

al amplitude.

ideo current test

cy counter

y a 100% white

C7351.
0.87 ± 0.03 (see

0.55 ± 0.03 see

y a 100% white

current test pin'

cy counter reads

(3153)

ply a colour bar.

tripes in the blue
see Fig. 2).

nt (3325)

- Connect an oscilloscope to the 'video current test pin' on the head amplifier.
- Apply no signal (programme E).
- Adjust resistor 3325 for a signal amplitude of 320 mVpp.

10. Chrominance write current adjustment (3114)

- Select 'record' mode.
- Connect an oscilloscope to the 'video current test pin' on the head amplifier.
- Connect a pattern generator and apply a red signal to the Euroconnector (programme E).
- Connect pin 24 of IC7351 to +5a.
- Adjust resistor 3114 for a signal amplitude of 80 mVpp (–12 dB relative to the luminance signal).

(F) AJUSTAGES

1. VCO chroma (3126)

- Brancher un fréquencemètre à la broche 7 de l'IC7352.
- Mettre sur "lecture" (sans cassette) (mire d'essai).
- Régler le résistance 3126 pour que le fréquencemètre affiche 8,867237 MHz ± 40 Hz.

2. Niveau E–E (3341)

- Brancher un générateur de mire et apliquer une image à 100% de blanc à l'Euroconnecteur (programme E).
- Mettre le lecteur sur "stop".
- Brancher un oscilloscope au connecteur 2S1.
- Ajuster la résistance 3341 de manière que l'amplitude de la tension de sortie atteigne 1,8 Vcc ±0,05 Vcc.

3. Niveau luminance en lecture (3356)

- Passer une cassette avec une image à 100 % de blanc.
- Brancher un oscilloscope au connecteur 2S1.
- Ajuster la résistance 3356 de manière que l'amplitude du signal de sortie atteigne 1,8 Vcc ± 0,05Vcc.

4. Réglage de l'équilibre du réducteur de bruit (3301)

- Passer une cassette avec une image à 100 % de blanc.
- Brancher un oscilloscope sur la broche 10 de l'IC7351 (condensateur 2317).
- Ajuster la résistance 3301 de manière que l'amplitude du signal soit minimale.

5. Fréquence sync. (3323)

- Mettre l'appareil au mode "record".
- Ne pas appliquer de signal (programme E).
- Brancher un fréquencemètre sur la broche d'essai "courant vidéo" de l'ampli de tête.
- Ajuster la résistance 3323 pour que le fréquencemètre affiche 3,800 MHz ± 10 kHz.

6. Crête du blanc, crête du noir (3316,3327)

- Mettre l'appareil au mode "stop".
- Brancher un générateur de mire et appliquer une image à 100% de blanc.
- Brancher un oscilloscope à la broche 20 de l'IC 7351.
- Ajuster la résistance 3316 pour que U1/U2 = 0,87 ± 0,03 (voir fig.1).
- Ajuster la résistance pour que U3/U2 = 0,55 ± 0,03 (voir fig.1).

7. Fréquence du blanc (3320)

- Brancher un générateur de mire et appliquer une mire à 100% de blanc.
- Mettre l'appareil au mode "record"
- Brancher un oscilloscope à la broche "video current" sur l'ampli de tête.
- Ajuster la résistance 3320 pour que le fréquencemètre affiche 4,600 MHz ± 10 kHz.

8. Réglage de l'équilibre de chrominance (3153)

- Brancher un générateur de mire et appliquer une mire à barres de couleur.
- Mettre l'appareil au mode "record"
- Reproduire l'image enregistrée.
- Ajuster la résistance 3153 pour que les lignes noires dans la section bleue de la barre de couleur disparaissent (voir fig.2).

9. Réglage du courant d'écriture de luminance (3325)

- Mettre l'appareil au mode "record".
- Brancher un oscilloscope à la broche "video current" de l'ampli de tête.
- Ne pas appliquer de signal (programme E).
- Ajuster la résistance 3325 pour que l'amplitude du signal soit de 320 mVcc.

10. Réglage du courant d'écriture de chrominance (3114)

- Mettre l'appareil au mode "record".
- Brancher un oscilloscope à la broche "video current" de l'ampli de tête.
- Brancher un générateur de mire et appliquer un signal rouge sur l'Euroconnecteur (programme E).
- Relier la broche 24 de l'IC7351 à 5a.
- Ajuster la résistance 3114 pour que l'amplitude du signal soit de 80 mVcc (–12 dB par rapport au signal de luminance).

(NL) Afregelingen

1. Chroma VCO (3126)

- Sluit een frequentiemeter aan op pin 7 van IC7352.
- Recorder in "weergave" (zonder cassette) schakelen (testpatroon).
- Weerstand 3126 zodanig instellen, dat de frequentieteller 8,867237 MHz ± 40 Hz aangeeft.

2. E-E niveau (3341)

- Sluit een patroongenerator aan en voeg een 100% wit beeld toe aan de Euroconnector (programma E).
- Recorder in positie "stop" plaatsen.
- Sluit een oscilloscoop aan op connector 2S1.
- Weerstand 3341 zodanig instellen, dat de amplitude van de uitgangsspanning 1,8 Vpp ± 0,05 Vpp bedraagt.

3. Luminantie-playback-niveau (3356)

- Geef een op een cassette opgenomen 100% wit beeld weer.
- Sluit een oscilloscoop aan op connector 2S1.
- Weerstand 3356 zodanig instellen, dat de amplitude van het uitgangssignaal 1,8 Vpp ± 0,05 Vpp bedraagt.

4. Balansinstelling van de ruisonderdrukker (3301)

- Geef een op een cassette opgenomen 100% wit beeld weer.
- Sluit een oscilloscoop aan op pin 19 van IC7351 (condensator 2317).
- Met behulp van weerstand 3301 instellen op een minimale signaalamplitude.

5. Sync-frequentie (3323)

- Recorder in "record" mode plaatsen.
- Geen signaal toevoeren (programma E).
- Sluit een frequentieteller aan op de "video current testpin" op de kopversterker.
- Weerstand 3323 zodanig instellen, dat de frequentieteller 3,800 MHz ± 10 kHz aangeeft.

6. White clip, dark clip (3316, 3327)

- Recorder in "stop" mode plaatsen.
- Sluit een patroongenerator aan en voer een 100% wit beeld toe.
- Sluit een oscilloscoop aan op pin 20 van IC7351.
- Weerstand 3316 zodanig instellen, dat U1/U2 = 0,87 ± 0,03 (zie fig. 1)
- Weerstand 3327 zodanig instellen, dat U3/U2 = 0,55 ± 0,03 (zie fig. 1)

7. Wit-frequentie (3320)

- Sluit een patroongenerator aan en voer een 100% wit beeld toe.
- Recorder in "record" mode plaatsen.
- Sluit een oscilloscoop aan op de "video current testpin" op de kopversterker.
- Weerstand 3320 zodanig instellen, dat de frequentieteller 4,600 MHz ± 10 kHz.

8. Instelling van de chrominantiebalans (3153)

- Sluit een patroongenerator aan en voer een kleurenbalk toe.
- Recorder in "record" mode plaatsen.
- Geef het opgenomen beeld weer.
- Recorder in "still" mode plaatsen.
- Weerstand 3153 zodanig instellen, dat de zwarte strepen in het blauwe gedeelte van de kleurenbalk verdwijnen (zie fig. 2).

9. Luminantie schrijfstroominstelling (3325)

- Recorder in "record" mode plaatsen.
- Sluit een oscilloscoop aan op de "video current testpin" op de kopversterker.
- Geen signaal toevoeren (programma E).
- Weerstand 3325 zodanig instellen, dat de amplitude van het signaal 320 mVpp bedraagt.

10. Chrominantie-schrijfstroominstelling (3114)

- Recorder in "record" mode plaatsen.
- Sluit een oscilloscoop aan op de "video current testpin" op de kopversterker.
- Sluit een patroongenerator aan en voer een rood signaal toe aan de Euroconnector (programma E).
- Verbind pin 24 van IC7351 met +5a.
- Weerstand 3114 zodanig instellen, dat de amplitude van het signaal 80 mVpp bedraagt (– 12 dB ten opzichte van het luminantiesignaal).

(I) REGOLAZIONI

1. Croma VCO (3126)

- Collegare un frequenzimetro al piedino 7 di IC7352
- Premere il tasto "play" (sensa cassetta), segnale test
- Regolare il potenziometro 3126 in modo che il contatore di frequenza indichi 8,867237 MHz ± 40 Hz.

2. Livello E-E (3341)

- Collegare un generatore di segnale applicare un'immagine completamente bianca al Euro-connettore (programma E)
- Portare il registratore in posizione "STOP"
- Collegare un'oscilloscopio al connettore 2S1
- Regolare il potenziometro 3341 in modo che l'ampiezza della tensione d'uscita sia 1,8 Vpp ± 0,05 Vpp.

3. Luminanza Livello di riproduzione (3356)

- Riprodurre un'immagine completamente bianca registrata su cassetta.
- Collegare un'oscilloscopio al connettore 2S1.
- Regolare il potenziometro 3356 in modo che l'ampiezza del segnale d'uscita sia 1,8 Vpp ± 0,05 Vpp.

4. Regolazione del bilanciamento del soppressore di rumore (3301)

- Riprodurre un'immagine completamente bianca registrata su cassetta.
- Collegare un'oscilloscopio al piedino 10 di IC7351 (condensatore 2317)
- Regolare con l'aiuto del potenziometro 3301 l'ampiezza segnale al minimo.

5. Frequenza di sincronizzazione (3323)

- Registratore in posizione di registrazione.
- Non applicare nessun segnale (programma E).
- Collegare un contatore di frequenza al "testpin video current" nel preamplificatore testine.
- Regolare il potenziometro 3323 in modo che il contatore di frequenza indichi 3,800 MHz ± 10 kHz.

6. "White clip, dark clip" (3316, 3327)
(tosatura del bianco e del nero)

- Portare il registratore in posizione "STOP".
- Collegare un generatore di segnale e applicare un'immagine completamente bianca.
- Collegare un'oscilloscopio al piedino 20 di IC7351.
- Regolare il potenziometro 3316 in modo che U1/U2 = 0,87 ± 0,03 (veda fig. 1).
- Regolare il potenziometro 3327 in modo che U3/U2 = 0,55 ± 0,03 (veda fig. 1).

7. Frequenza del bianco (3320)

- Collegare un generatore di segnale e applicare un'immagine completamente bianca.
- Portare l'apparecchio in posizione di registrazione.
- Collegare un frequenzimetro al "testpin video current" nel preamplificatore testine.
- Regolare il potenziometro 3320 in modo che il contatore di frequenza indichi 4,600 MHz ± 10 kHz.

8. Regolazione del bilanciamento della crominanza (3153)

- Collegare un generatore di segnale e applicare un segnale barre colore.
- Portare il registratore in posizione di registrazione.
- Riprodurre l'immagine registrata.
- Portare il registratore in posizione "fermo immagine".
- Regolare il potenziometro 3153 in modo che spariscano le strisce nere nella parte blu del segnale barre colori (veda fig. 2).

9. Regolazione della corrente di registrazione di luminanza (3325)

- Portare il registratore in posizione di registrazione.
- Collegare al "testpin video current" nel amplificatore testine un osciloscopio.
- Non applicare nessun segnale (programma E).
- Regolare il potenziometro 3325 in modo che l'ampiezza del segnale sia 320 mVpp.

10. Regolazione della corrente di registrazione di crominanza (3114)

- Portare il registratore in posizione di registrazione.
- Collegare l'oscilloscopio al "testpin video current" nel amplificatore testine.
- Collegare un generatore di segnale e applicare un segnale rosso al Euro-connettore (programma E).
- Collegare il piedino 24 di IC7351 a +5a.
- Regolare il potenziometro 3114 in modo che l'ampiezza del segnale sia 80 mVpp (-12dB relativo al segnale di luminanza).

(E) AJUSTES

1. Croma VCO (3126)

- Conectar un frecuencímetro al Pin 7 de IC7352.
- Ponga el registrador en "play" (sin casete) (carta de ajuste).
- Ajuste la resistencia 3126 de manera que el frecuencímetro indique 8,867237 MHz ± 40 Hz.

2. Nivel E - E (3341)

- Conecte un generador patrón y aporte una imagen blanca al conectorEURO (programa E).
- Ponga el registrador en posición "stop"
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3341 de manera que la amplitud de la tensión de salida sea 1,8 Vss ± 0,05 Vss.

3. Luminancia - nivel de reproducción (3356)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3356 de manera que la amplitud de la señal de salida sea 1,8 Vss ± 0,05 Vss.

4. Compensación del supresor de ruidos (3301)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conexión 10 de IC7351 (condensador 2317).
- Ajuste la señal de amplitud con ayuda de la resistencia 3301 de manera que sea mínima.

5. Frecuencia de sincronización (3323)

- Ponga el registrador en posición "record".
- No alimente ninguna señal (programa E).
- Conecte un frecuencímetro al "video current testpin" en el amplificador de cabezas.
- Ajuste la frecuencia 3323 de manera que el frecuencímetro indique 3,800 MHz ± 10 kHz.

6. "white clip, dark clip" (3316, 3327)

- Ponga el registrador en posición "stop".
- Conecte un generador patrón y aporte una imagen blanca.
- Conecte un osciloscopio al Pin 20 de IC7351.
- Ajuste la resistencia 3316 de manera que U1/U2 = 0,87 ± 0,03 (véase fig. 1).
- Ajuste la resistencia 3327 de manera que U3/U2 = 0,55 ± 0,03 (véase fig.1).

7. Frecuencia blanca (3320)

- Conecte un generador patrón y aporte una imagen blanca.
- Ponga el registrador en posición "record"
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Ajuste la resistencia 3320 de manera que el frecuencímetro indique 4,600 MHz ± 10 kHz.

8. Ajuste de la compensación crominancia (3153)

- Conecte un generador patrón y aporte una carta de barras de color.
- Ponga el registrador en posición "record".
- Reproduzca la imagen registrada.
- Ponga el registrador en posición imagen parada.
- Ajuste la resistencia 3153 de manera que las rayas negras en la parte azúl de la barra de color desaparezcan (véase fig. 2).

9. Luminancia-ajuste del registrador de corriente (3325)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- No alimente ninguna señal (programa E).
- Ajuste la resistencia 3325 de manera que la amplitud de la señal sea 320 mVss.

10. Crominancia-ajuste del registrador de corriente (3114)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Conecte un generador patrón y aporte una señal roja al conector Euro (programa E).
- Conecte la conexión 24 de IC7351) con +5a.
- Ajuste la resistencia 3114 de manera que la amplitud de señal sea 80 mVss (-12dB referido a la señal de luminancia).

(E) AJUSTES

1. Croma VCO (3126)

- Conectar un frecuencímetro al Pin 7 de IC7352.
- Ponga el registrador en "play" (sin casete) (carta de ajuste).
- Ajuste la resistencia 3126 de manera que el frecuencímetro indique 8,867237 MHz ± 40 Hz.

2. Nivel E - E (3341)

- Conecte un generador patrón y aporte una imagen blanca al conectorEURO (programa E).
- Ponga el registrador en posición "stop"
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3341 de manera que la amplitud de la tensión de salida sea 1,8 Vss ± 0,05 Vss.

3. Luminancia - nivel de reproducción (3356)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3356 de manera que la amplitud de la señal de salida sea 1,8 Vss ± 0,05 Vss.

4. Compensación del supresor de ruidos (3301)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conexión 10 de IC7351 (condensador 2317).
- Ajuste la señal de amplitud con ayuda de la resistencia 3301 de manera que sea mínima.

5. Frecuencia de sincronización (3323)

- Ponga el registrador en posición "record".
- No alimente ninguna señal (programa E).
- Conecte un frecuencímetro al "video current testpin" en el amplificador de cabezas.
- Ajuste la frecuencia 3323 de manera que el frecuencímetro indique 3,800 MHz ± 10 kHz.

6. "white clip, dark clip" (3316, 3327)

- Ponga el registrador en posición "stop".
- Conecte un generador patrón y aporte una imagen blanca.
- Conecte un osciloscopio al Pin 20 de IC7351.
- Ajuste la resistencia 3316 de manera que U1/U2 = 0,87 ± 0,03 (véase fig. 1).
- Ajuste la resistencia 3327 de manera que U3/U2 = 0,55 ± 0,03 (véase fig.1).

7. Frecuencia blanca (3320)

- Conecte un generador patrón y aporte una imagen blanca.
- Ponga el registrador en posición "record"
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Ajuste la resistencia 3320 de manera que el frecuencímetro indique 4,600 MHz ± 10 kHz.

8. Ajuste de la compensación crominancia (3153)

- Conecte un generador patrón y aporte una carta de barras de color.
- Ponga el registrador en posición "record".
- Reproduzca la imagen registrada.
- Ponga el registrador en posición imagen parada.
- Ajuste la resistencia 3153 de manera que las rayas negras en la parte azúl de la barra de color desaparezcan (véase fig. 2).

9. Luminancia-ajuste del registrador de corriente (3325)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- No alimente ninguna señal (programa E).
- Ajuste la resistencia 3325 de manera que la amplitud de la señal sea 320 mVss.

10. Crominancia-ajuste del registrador de corriente (3114)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Conecte un generador patrón y aporte una señal roja al conector Euro (programa E).
- Conecte la conexión 24 de IC7351) con +5a.
- Ajuste la resistencia 3114 de manera que la amplitud de señal sea 80 mVss (-12dB referido a la señal de luminancia).

(E) AJUSTES

1. Croma VCO (3126)

- Conectar un frecuencímetro al Pin 7 de IC7352.
- Ponga el registrador en "play" (sin casete) (carta de ajuste).
- Ajuste la resistencia 3126 de manera que el frecuencímetro indique 8,867237 MHz ± 40 Hz.

2. Nivel E - E (3341)

- Conecte un generador patrón y aporte una imagen blanca al conectorEURO (programa E).
- Ponga el registrador en posición "stop"
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3341 de manera que la amplitud de la tensión de salida sea 1,8 Vss ± 0,05 Vss.

3. Luminancia - nivel de reproducción (3356)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conector 2S1.
- Ajuste la resistencia 3356 de manera que la amplitud de la señal de salida sea 1,8 Vss ± 0,05 Vss.

4. Compensación del supresor de ruidos (3301)

- Reproduzca una imagen blanca registrada en una casete.
- Conecte un osciloscopio a conexión 10 de IC7351 (condensador 2317).
- Ajuste la señal de amplitud con ayuda de la resistencia 3301 de manera que sea mínima.

5. Frecuencia de sincronización (3323)

- Ponga el registrador en posición "record".
- No alimente ninguna señal (programa E).
- Conecte un frecuencímetro al "video current testpin" en el amplificador de cabezas.
- Ajuste la frecuencia 3323 de manera que el frecuencímetro indique 3,800 MHz ± 10 kHz.

6. "white clip, dark clip" (3316, 3327)

- Ponga el registrador en posición "stop".
- Conecte un generador patrón y aporte una imagen blanca.
- Conecte un osciloscopio al Pin 20 de IC7351.
- Ajuste la resistencia 3316 de manera que U1/U2 = 0,87 ± 0,03 (véase fig. 1).
- Ajuste la resistencia 3327 de manera que U3/U2 = 0,55 ± 0,03 (véase fig.1).

7. Frecuencia blanca (3320)

- Conecte un generador patrón y aporte una imagen blanca.
- Ponga el registrador en posición "record"
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Ajuste la resistencia 3320 de manera que el frecuencímetro indique 4,600 MHz ± 10 kHz.

8. Ajuste de la compensación crominancia (3153)

- Conecte un generador patrón y aporte una carta de barras de color.
- Ponga el registrador en posición "record".
- Reproduzca la imagen registrada.
- Ponga el registrador en posición imagen parada.
- Ajuste la resistencia 3153 de manera que las rayas negras en la parte azúl de la barra de color desaparezcan (véase fig. 2).

9. Luminancia-ajuste del registrador de corriente (3325)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- No alimente ninguna señal (programa E).
- Ajuste la resistencia 3325 de manera que la amplitud de la señal sea 320 mVss.

10. Crominancia-ajuste del registrador de corriente (3114)

- Ponga el registrador en posición "record".
- Conecte un osciloscopio al "video current testpin" en el amplificador de cabezas.
- Conecte un generador patrón y aporte una señal roja al conector Euro (programa E).
- Conecte la conexión 24 de IC7351) con +5a.
- Ajuste la resistencia 3114 de manera que la amplitud de señal sea 80 mVss (-12dB referido a la señal de luminancia).

HEAD AMPLIFIER HVC

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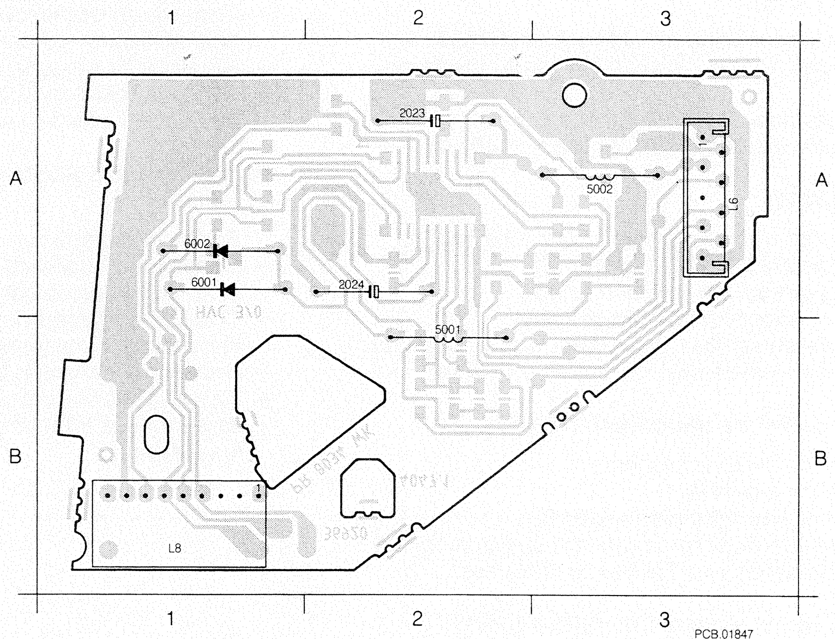
L8	B1	5002	A3
2023	A2	6001	A1
2024	A2	6002	A1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3
A
B
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L6
6002
6001
2024
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L8
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PCB.01847
T28/948

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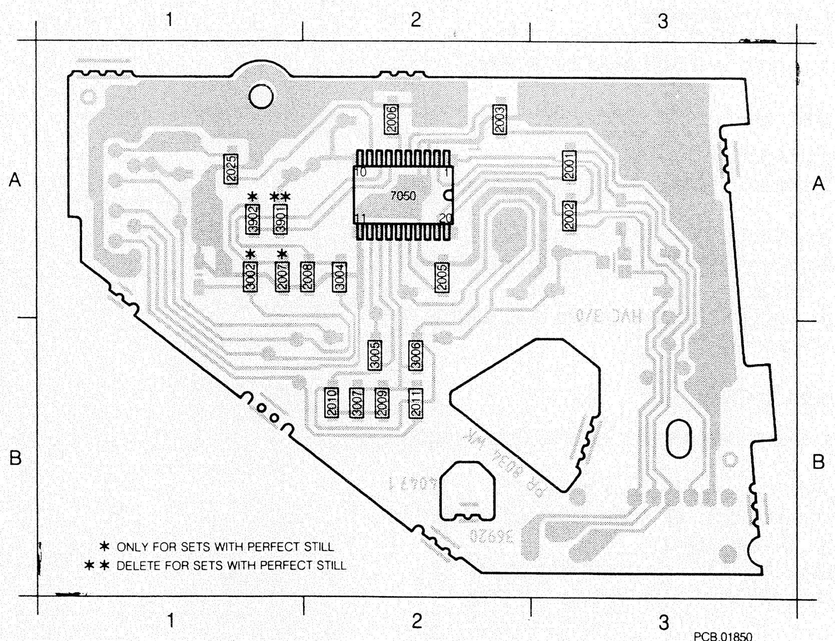
1
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3
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B
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2025
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10
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11
20
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2002
3902
3901
3002
2007
2008
3004
2005
3005
3006
2010
3007
2009
2011

∗ ONLY FOR SETS WITH PERFECT STILL
∗∗ DELETE FOR SETS WITH PERFECT STILL

PCB.01850
T28/948

HEAD AMPLIFIER HVC

2001	F6
2002	G6
2003	G6
2005	H5
2006	H5
2007	J4
2008	I3
2009	D3
2010	C3
2011	A2
2023	D2
2024	E2
2025	F2
3001	J2
3002	I4
3004	H3
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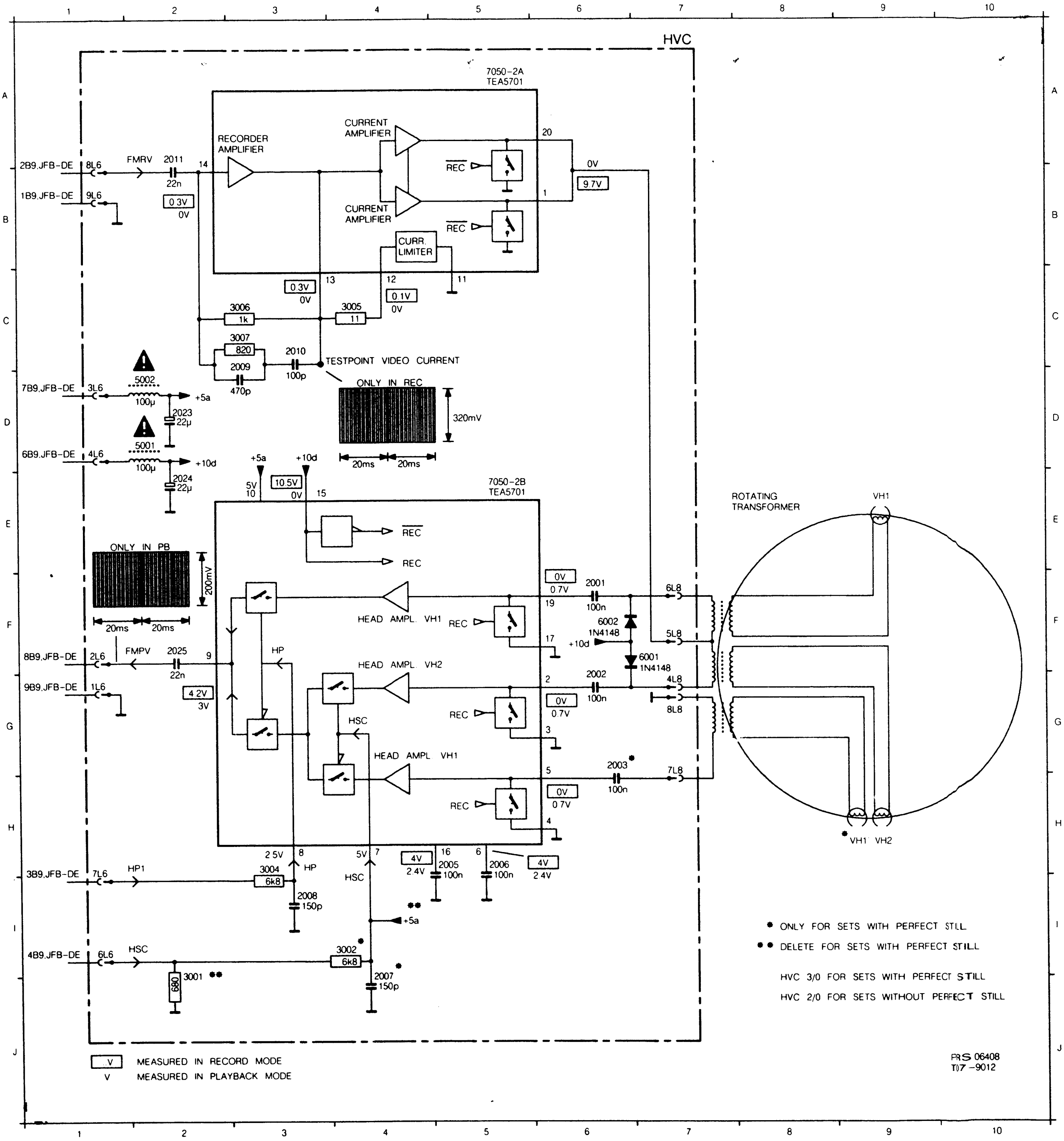
HVC
7050-2A
TEA5701
RECORDER AMPLIFIER
CURRENT AMPLIFIER
CURRENT AMPLIFIER
CURR. LIMITER
REC
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1B9.JFB-DE
7B9.JFB-DE
6B9.JFB-DE
8B9.JFB-DE
9B9.JFB-DE
3B9.JFB-DE
4B9.JFB-DE
8L6
9L6
3L6
4L6
2L6
1L6
7L6
6L6
FMRV
2011
22n
0.3V
0V
9.7V
0.1V
3006
1k
3005
11
3007
820
2009
470p
2010
100p
TESTPOINT VIDEO CURRENT
ONLY IN REC
320mV
20ms
5002
100μ
+5a
2023
22μ
5001
+10d
2024
7050-2B
TEA5701
10.5V
ONLY IN PB
200mV
HEAD AMPL. VH1
HEAD AMPL. VH2
HP
HSC
FMPV
2025
4.2V
3V
2001
100n
6002
1N4148
6001
2002
2003
0.7V
6L8
5L8
4L8
8L8
7L8
ROTATING TRANSFORMER
VH1
VH2
HP1
3004
6k8
2.5V
2008
150p
4V
2.4V
2005
2006
3002
3001
680
2007

● ONLY FOR SETS WITH PERFECT STILL

●● DELETE FOR SETS WITH PERFECT STILL

HVC 3/0 FOR SETS WITH PERFECT STILL

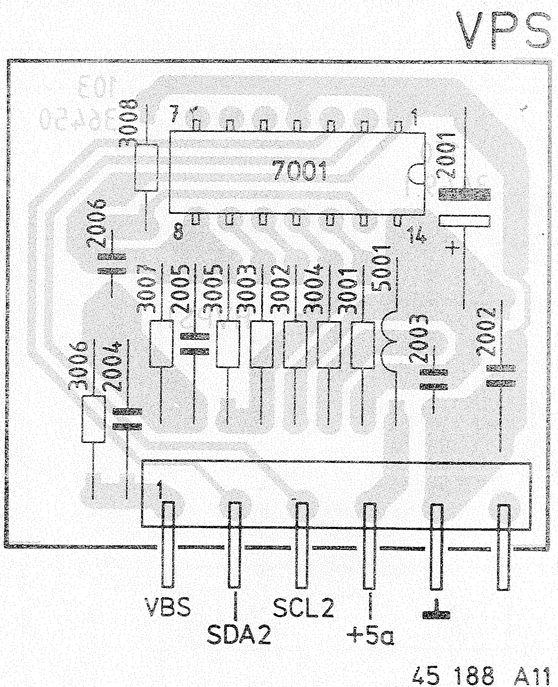
HVC 2/0 FOR SETS WITHOUT PERFECT STILL

▭V MEASURED IN RECORD MODE

V MEASURED IN PLAYBACK MODE

PRS 06408
T07 -9012

VIDEO PROGRAM SYSTEM VPS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2003
2002
3006
2004
1
VBS
SDA2
SCL2
+5a
45 188 A11

2001	B 3
2002	B 3
2003	D 3
2004	E 2
2005	E 3
2006	E 3
3001	B 4
3002	B 4
3003	C 3
3004	D 3
3005	D 3
3006	D 2
3007	E 2
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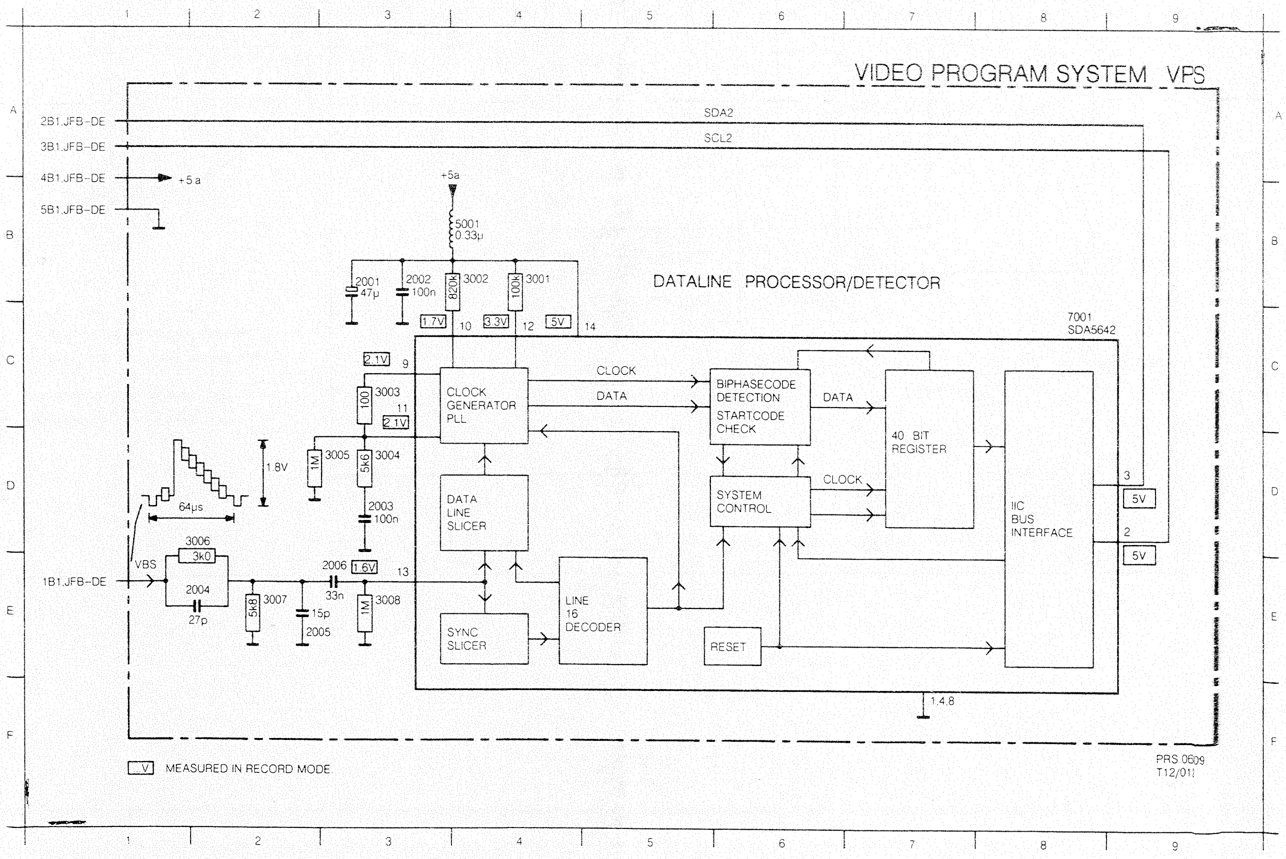
5001	B 4
7001	C 8

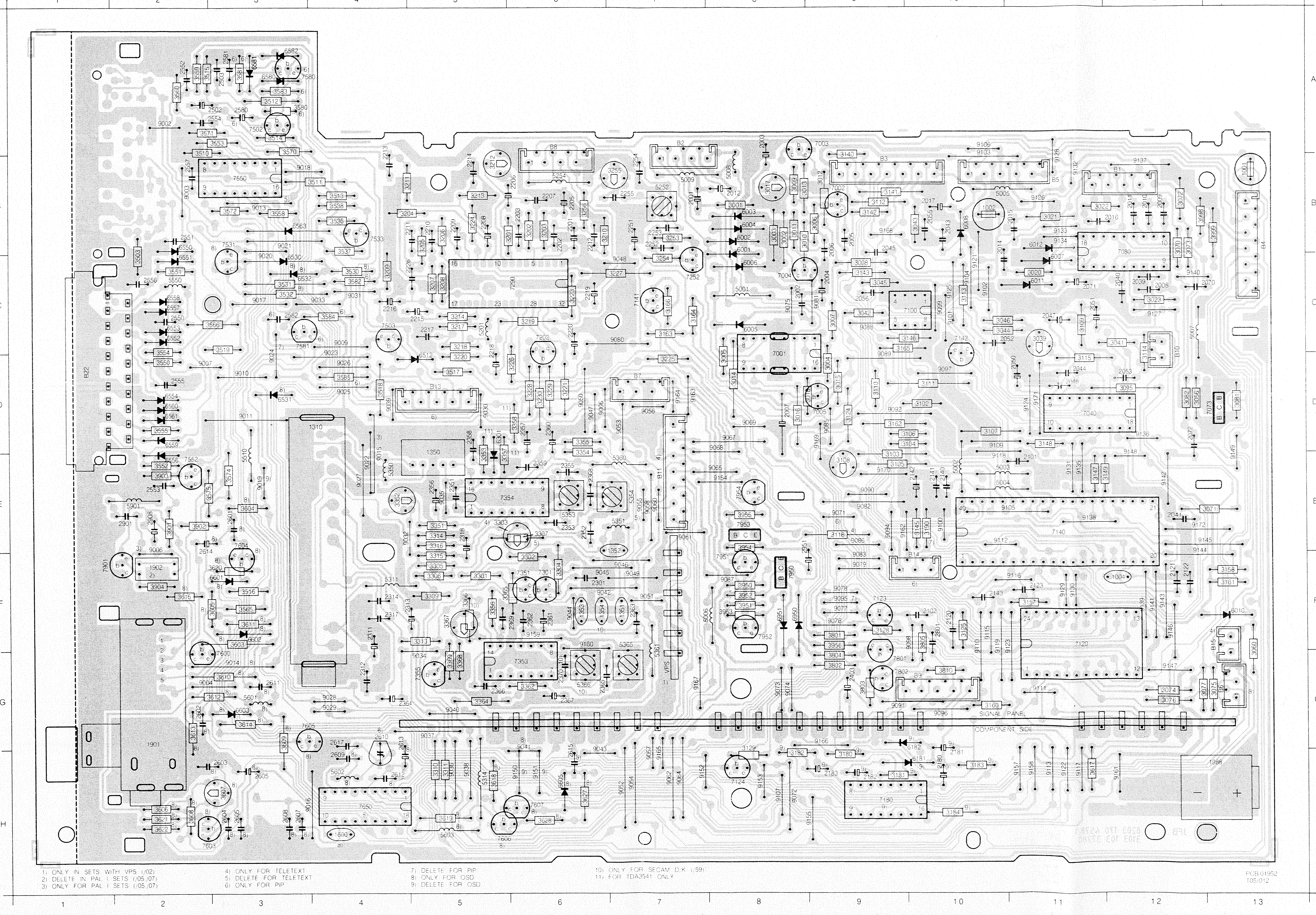

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
VIDEO PROGRAM SYSTEM VPS
2B1.JFB-DE
3B1.JFB-DE
4B1.JFB-DE
5B1.JFB-DE
1B1.JFB-DE
SDA2
SCL2
+5a
+5a
5001
0.33µ
2001
47µ
2002
100n
820k
3002
100k
3001
1.7V
10
3.3V
12
5V
14
DATALINE PROCESSOR/DETECTOR
7001
SDA5642
2.1V
9
100
3003
11
2.1V
1M
3005
5k6
3004
1.8V
64µs
2003
100n
VBS
3006
3k0
2004
27p
5k8
3007
2006
1.6V
13
33n
15p
2005
1M
3008
CLOCK GENERATOR PLL
CLOCK
DATA
BIPHASECODE DETECTION
STARTCODE CHECK
DATA
40 BIT REGISTER
CLOCK
DATA LINE SLICER
SYSTEM CONTROL
IIC BUS INTERFACE
3
5V
2
5V
SYNC SLICER
LINE 16 DECODER
RESET
1,4,8
PRS 0609
T12/011

V MEASURED IN RECORD MODE

When the VPS panel is built in clear the RAM by disconnecting the battery pos. 1988 for one minute.

FAMILY BOARD-IN/OUT JFB-I/O

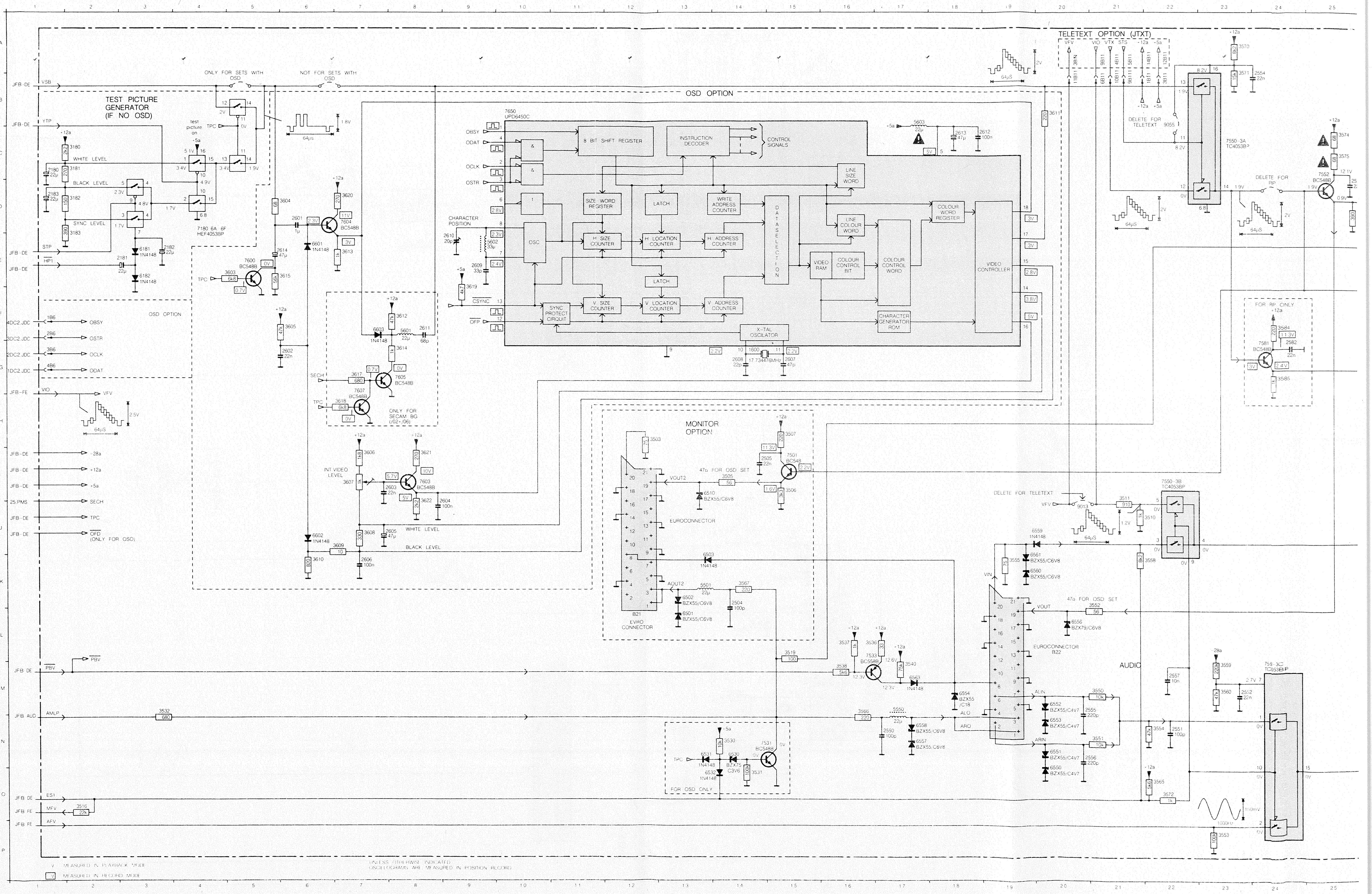
B1	B12
B2	A7
B3	B9
B4	B13
B5	B11
B6	G13
B7	D7
B8	A6
B9	G10
B10	D12
B11	E7
B13	D5
B14	F10
B15	G13
B22	D1
VPS	G7
1001	B13
1002	B10
1004	F12
1310	D3
1350	E5
1351	F7
1352	F6
1353	F6
1354	F6
1600	H4
1901	G2
1902	F2
1988	H13
2001	B7
2002	C8
2003	A8
2004	C9
2005	B9
2006	C9
2007	D8
2008	C12
2009	B12
2010	B12
2011	B12
2012	B8
2014	C10
2015	B11
2016	B12
2017	B10
2039	C12
2040	C12
2041	E12
2043	B10
2044	D11
2045	B9
2046	D11
2047	C11
2050	D11
2051	C11
2052	C10
2053	D12
2055	B10
2056	C9
2070	C12
2071	C11
2072	D12
2101	E11
2102	F10
2120	F10
2121	F12
2122	F12
2123	F11
2140	E10
2141	E10
2142	E10
2143	F10
2180	H10
2181	H10
2182	H9
2183	H9
2201	B6
2202	B6
2203	B6
2205	B6
2206	B6
2207	B6
2208	B5
2209	B5
2210	B5
2211	B5
2212	B6
2213	B4
2214	B5
2215	C5
2216	C4
2217	C5
2218	D5
2219	C6
2220	C6
2226	C5
2251	B7
2252	B7
2253	B7
2254	B7
2255	B7
2301	F6
2311	F4
2312	G4
2313	F5
2314	F4
2317	F4
2318	E5
2351	E5
2352	E6
2353	E6
2355	E6
2356	E5
2357	D6
2358	D5
2359	E6
2360	D6
2361	F6
2362	F6
2363	F7
2364	G4
2365	G6
2366	G5
2367	G6
2368	E6
2369	F6
2370	G6
2403	G9
2502	A3
2503	A3
2550	C2
2551	B2
2552	A2
2553	E2
2554	A2
2555	D2
2556	C2
2557	B2
2580	A3
2581	A3
2582	C3
2601	E3
2602	G2
2603	H3
2604	H3
2605	H3
2605	H3
2607	H3
2608	H3
2609	H4
2610	G4
2611	G3
2612	H4
2613	H4
2614	F2
2615	H6
2617	G4
2801	F10
2901	E2
2908	E2
2951	F8
3001	B8
3002	B8
3003	B8
3004	D9
3005	D8
3006	B9
3007	C9
3008	C9
3009	B8
3010	B9
3011	B8
3012	B9
3013	B9
3014	D8
3015	D9
3016	D8
3017	B8
3018	D9
3020	C11
3021	B11
3022	B11
3023	C12
3039	C11
3041	C12
3042	C9
3043	B10
3044	C10
3045	C9
3046	C10
3056	D12
3060	G13
3070	C12
3071	E12
3072	B12
3073	C12
3074	G12
3075	G13
3076	G12
3077	G12
3081	D13
3082	D12
3095	D12
3102	D10
3103	E9
3104	D9
3105	E9
3106	D9
3107	D10
3108	E9
3109	C11
3110	D9
3111	D10
3112	B9
3113	C10
3114	D12
3115	D11
3118	E9
3124	D9
3125	F10
3128	F9
3129	H8
3140	B9
3141	B9
3142	B9
3143	C9
3145	E10
3146	C9
3147	E11
3148	D11
3149	E12
3157	F11
3158	F13
3160	G10
3161	F13
3162	D9
3163	C7
3164	C7
3165	C9
3166	C7
3180	H9
3181	H9
3182	H8
3183	H10
3184	H10
3190	E10
3201	B6
3202	B6
3203	B6
3204	B4
3205	B5
3206	B5
3207	C5
3208	C5
3209	C4
3210	B7
3211	B5
3212	B5
3213	B5
3214	C5
3217	C5
3218	C5
3219	C6
3220	D5
3221	D6
3223	C6
3224	B5
3225	D7
3226	D6
3227	C7
3228	D6
3229	D6
3230	D6
3253	B7
3254	C7
3255	B7
3256	B6
3301	F5
3302	F6
3303	E6
3304	F6
3305	F5
3306	F5
3307	E6
3309	F5
3310	H5
3311	H5
3313	F5
3314	E5
3315	F5
3316	E5
3351	E5
3352	E4
3353	E5
3354	E6
3355	D6
3356	F5
3357	E5
3358	D6
3362	G6
3364	G5
3365	F5
3366	F5
3367	F5
3368	G5
3369	G5
3503	C2
3510	A2
3511	B4
3512	A3
3513	B4
3514	A3
3515	A3
3516	F3
3517	D5
3518	D4
3519	C3
3530	C4
3531	C3
3532	C3
3536	B4
3537	B4
3538	B4
3550	D2
3551	C2
3552	E2
3553	A3
3554	D2
3555	D2
3558	B3
3559	A2
3560	A2
3565	F3
3566	C2
3570	A3
3571	A2
3572	B3
3574	E3
3575	E3
3580	A3
3581	A3
3582	C4
3583	A3
3584	C4
3585	D4
3603	F3
3604	E3
3605	F3
3606	H2
3607	H3
3608	H2
3609	H3
3610	G3
3611	F3
3612	G2
3613	G2
3614	G3
3615	F2
3617	H11
3618	H5
3619	H5
3620	F2
3621	H2
3622	H2
3627	H6
3628	H6
3801	F9
3802	G9
3803	G9
3804	G9
3805	F10
3810	G10
3901	E2
3902	E2
3903	E2
3904	F2
3950	F8
3951	F8
3952	F8
3953	F8
3954	E8
3955	E8
3956	F9
3998	B12
3999	B13
5001	C8
5002	E10
5254	B6
5311	F4
5314	H5
5350	E4
5351	E7
5353	E6
5354	E7
5360	E7
5361	G7
5365	F7
5366	G6
5510	E3
5550	C2
5601	G3
5602	H4
5603	H5
5901	E2
6001	B8
6002	B8
6003	B8
6004	B8
6005	C8
6006	C8
6007	C11
6008	B10
6010	F13
6011	C11
6012	B11
6181	H10
6182	H9
6301	D5
6512	D5
6530	C3
6531	D3
6532	C3
6550	B2
6551	C2
6552	C2
6553	C2
6554	D2
6556	E2
6557	C2
6558	C2
6559	D2
6560	D2
6561	D2
6563	B3
6580	A3
6581	A3
6581	A3
6582	A3
6601	F2
6602	F3
6603	G3
6605	H6
6950	F8
6951	F8
7001	D8
7002	B9
7003	A9
7004	C8
7005	D9
7040	D11
7073	D13
7080	C12
7100	C9
7120	F11
7123	F9
7124	H8
7140	E11
7141	C7
7142	C10
7180	H9
7202	C6
7252	C7
7290	C6
7301	F6
7351	F6
7353	G6
7354	E5
7355	G5
7502	A3
7503	C4
7531	B3
7533	B4
7550	B3
7552	E2
7580	A3
7581	C3
7600	G3
7603	H2
7604	E3
7605	G3
7606	H5
7607	H6
7650	H4
7801	G9
7802	G9
7901	F1
7950	F8
7951	F8
7952	F8
7953	E8
7954	E8
9002	A2
9003	B2
9004	G2
9006	E2
9007	D2
9009	C4
9010	D3
9011	D3
9013	B3
9014	G3
9015	E4
9016	H3
9017	C3
9018	B3
9019	E3
9020	C3
9021	B3
9022	E4
9023	D4
9024	D3
9025	D4
9026	D4
9027	E4
9028	G4
9029	G4
9030	D5
9031	C4
9032	E4
9033	C4
9034	G5
9035	E5
9036	H5
9037	G5
9038	H5
9039	D4
9040	G5
9041	H6
9042	F6
9043	H6
9044	F6
9045	F6
9046	F7
9047	D6
9048	C7
9049	F7
9050	D6
9051	F7
9052	H7
9053	D7
9054	H7
9055	E7
9056	D7
9057	H7
9058	E7
9060	E7
9061	E7
9062	H7
9064	H7
9065	E8
9066	D6
9067	D8
9068	D8
9069	D8
9071	E9
9072	H8
9073	G8
9074	G8
9075	C8
9076	F9
9077	F9
9078	F9
9079	F9
9080	C7
9081	C9
9082	E9
9083	F9
9085	D9
9086	E9
9087	F8
9088	C9
9089	D9
9090	E9
9091	G9
9092	D9
9094	E9
9095	F9
9096	G10
9097	D10
9098	F10
9099	C10
9100	E10
9101	C10
9102	C10
9103	B10
9104	C10
9105	E10
9106	A10
9107	H8
9109	D10
9110	G10
9111	G11
9112	E10
9113	H11
9115	F10
9116	F10
9117	H11
9118	E10
9119	G10
9121	C10
9122	H11
9123	G11
9124	D11
9125	C10
9126	B11
9127	C12
9128	B11
9129	F11
9130	F11
9131	E11
9132	B11
9133	B11
9134	B11
9135	E11
9136	D12
9137	B12
9138	E11
9139	F12
9140	C12
9141	F12
9142	E12
9143	F12
9144	F12
9145	E12
9146	F12
9147	G12
9148	E12
9149	E13
9150	H6
9151	H6
9152	H7
9153	H8
9154	E8
9155	H9
9157	H11
9158	H11
9159	F6
9160	F6
9161	H12
9162	E9
9163	D7
9164	D7
9165	H7
9166	G9
9167	G7
9168	B9
9169	D9
9170	E9
9171	D11
9172	E12



1) ONLY IN SETS WITH VPS (/02)
2) DELETE IN PAL I SETS (/05/07)
3) ONLY FOR PAL I SETS (/05/07)
4) ONLY FOR TELETEXT
5) DELETE FOR TELETEXT
6) ONLY FOR PIP
7) DELETE FOR PIP
8) ONLY FOR OSD
9) DELETE FOR OSD
10) ONLY FOR SECAM D/K (/59)
11) FOR TDA3541 ONLY

CS 28 881

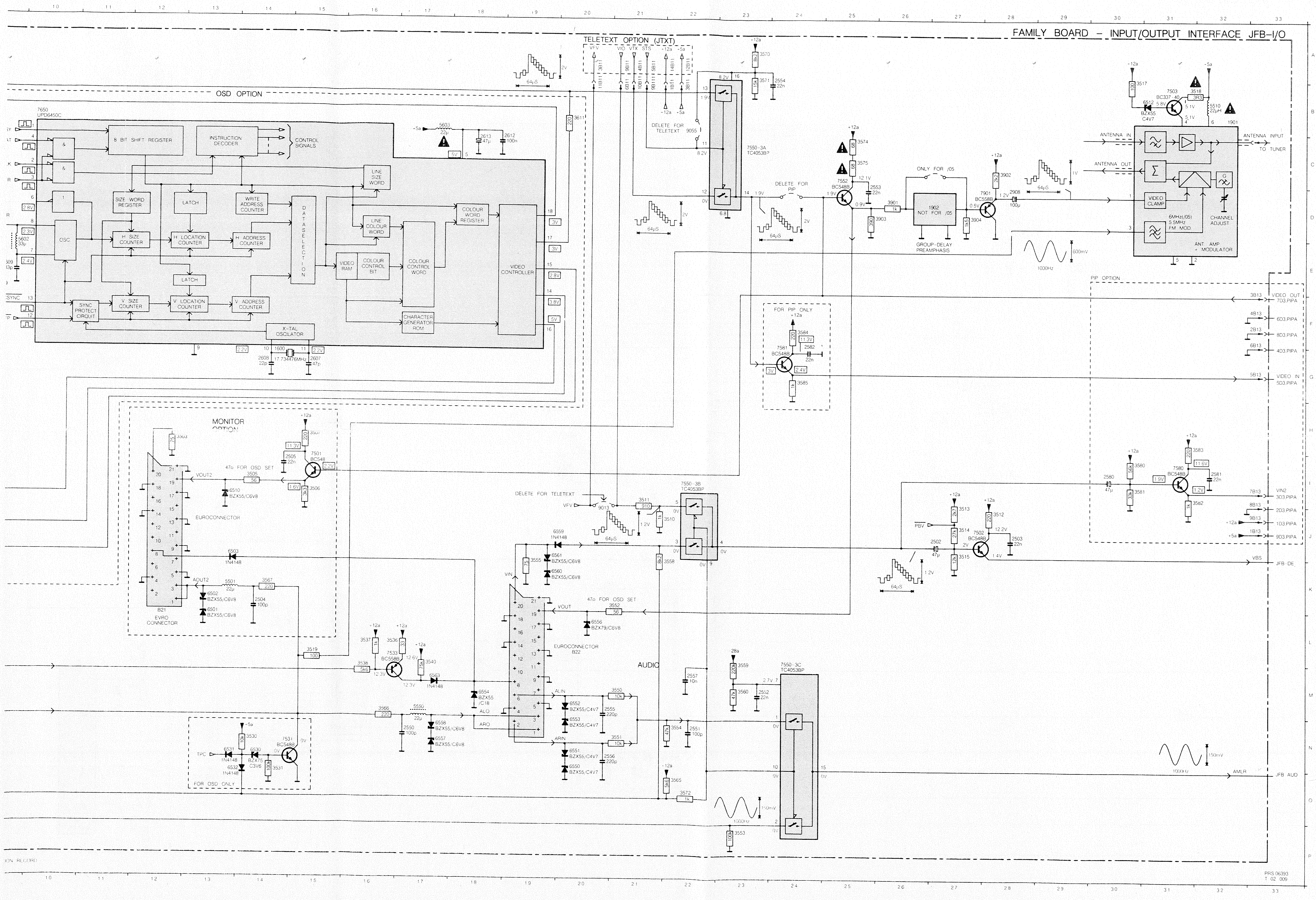
FAMILY BOARD-IN/OUT JFB-I/O


TEST PICTURE GENERATOR (IF NO OSD)
ONLY FOR SETS WITH OSD
NOT FOR SETS WITH OSD
OSD OPTION
TELETEXT OPTION (JTXT)
WHITE LEVEL
BLACK LEVEL
SYNC LEVEL
7180 6A 6F HEF4053BP
7650 UPD6450C
8 BIT SHIFT REGISTER
INSTRUCTION DECODER
CONTROL SIGNALS
SIZE WORD REGISTER
LATCH
WRITE ADDRESS COUNTER
LINE SIZE WORD
LINE COLOUR WORD
COLOUR WORD REGISTER
H SIZE COUNTER
H LOCATION COUNTER
H ADDRESS COUNTER
DATA SELECTION
VIDEO RAM
COLOUR CONTROL BIT
COLOUR CONTROL WORD
VIDEO CONTROLLER
OSC
SYNC PROTECT CIRCUIT
V SIZE COUNTER
V LOCATION COUNTER
V ADDRESS COUNTER
CHARACTER GENERATOR ROM
X-TAL OSCILLATOR
17.734476MHz
CHARACTER POSITION
OBSY
ODAT
OCLK
OSTR
CSYNC
OFP
ONLY FOR SECAM BG (/02+/06)
INT VIDEO LEVEL
MONITOR OPTION
47Ω FOR OSD SET
VOUT2
AOUT2
EUROCONNECTOR
B21 EURO CONNECTOR
EUROCONNECTOR B22
FOR OSD ONLY
DELETE FOR TELETEXT
DELETE FOR PIP
FOR PIP ONLY
7550-3A TC4053BP
7550-3B TC4053BP
7550-3C TC4053BP
AUDIO
JFB-DE
JFB-FE
JFB AUD
VSB
YTP
STP
HP1
VFV
VIO
PBV
AMLP
ES1
MFV
AFV
SECH
TPC
-28a
+12a
+5a
OFD (ONLY FOR OSD)
ALIN
ALO
ARO
ARIN
VIN
VOUT
64μS
1000Hz

V MEASURED IN PLAYBACK MODE

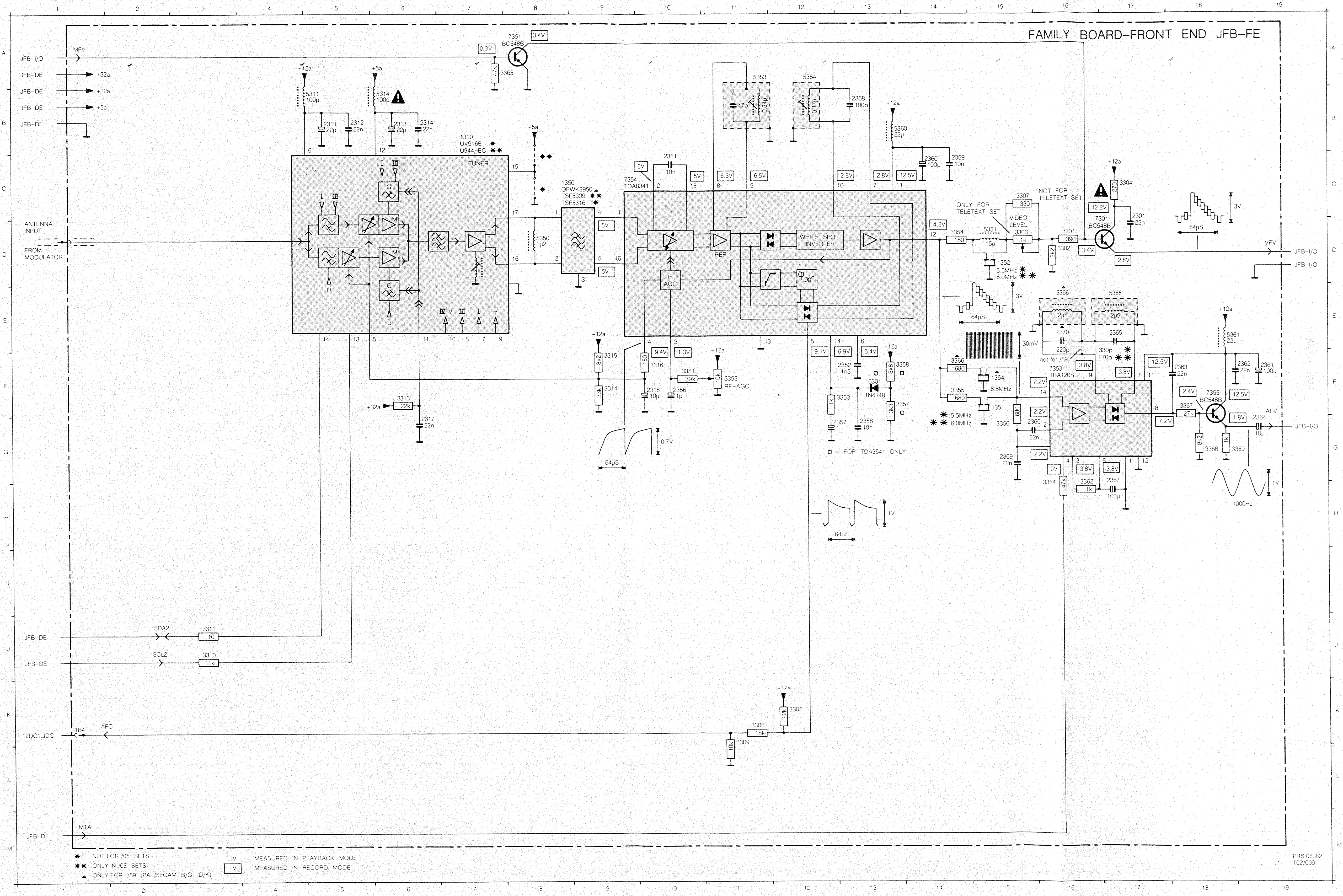
[V] MEASURED IN RECORD MODE

UNLESS OTHERWISE INDICATED OSCILLOGRAMS ARE MEASURED IN POSITION RECORD


FAMILY BOARD - INPUT/OUTPUT INTERFACE JFB-I/O
TELETEXT OPTION (JTXT)
VFV VIO VTX STS -12a +5a
OSD OPTION
7650
UPD6450C
8 BIT SHIFT REGISTER
INSTRUCTION DECODER
CONTROL SIGNALS
LINE SIZE WORD
SIZE WORD REGISTER
LATCH
WRITE ADDRESS COUNTER
DATA SELECTION
LINE COLOUR WORD
COLOUR WORD REGISTER
OSC
H SIZE COUNTER
H LOCATION COUNTER
H ADDRESS COUNTER
VIDEO RAM
COLOUR CONTROL BIT
COLOUR CONTROL WORD
VIDEO CONTROLLER
SYNC PROTECT CIRCUIT
V SIZE COUNTER
V LOCATION COUNTER
V ADDRESS COUNTER
CHARACTER GENERATOR ROM
X-TAL OSCILLATOR
17.734476MHz
DELETE FOR TELETEXT 9055
7550-3A
TC4053BP
DELETE FOR PIP
ONLY FOR /05
1902
NOT FOR /05
GROUP-DELAY PREAMPHASIS
7552
BC548B
7901
BC558B
64μS
1000Hz
600mV
ANTENNA IN
ANTENNA OUT
ANTENNA INPUT
TO TUNER
1901
VIDEO CLAMP
6MHz(/05)
5.5MHz
FM MOD
CHANNEL ADJUST
ANT AMP + MODULATOR
7503
BC337-40
6512
BZX55
C4V7
5510
22μH
PIP OPTION
FOR PIP ONLY
7581
BC548B
VIDEO OUT
7D3.PIPA
6D3.PIPA
8D3.PIPA
4D3.PIPA
VIDEO IN
5D3.PIPA
7580
BC548B
VIN2
3D3.PIPA
2D3.PIPA
1D3.PIPA
9D3.PIPA
MONITOR OPTION
7501
BC548
47Ω FOR OSD SET
VOUT2
6510
BZX55/C6V8
EUROCONNECTOR
B21
EVRO CONNECTOR
AOUT2
5501
6502
BZX55/C6V8
6501
BZX55/C6V8
6503
1N4148
DELETE FOR TELETEXT
9013
7550-3B
TC4053BP
6559
1N4148
6561
BZX55/C6V8
6560
BZX55/C6V8
VIN
VOUT
6556
BZX79/C6V8
EUROCONNECTOR
B22
7502
BC548B
PBV
JFB-DE
VBS
7533
BC558B
6563
1N4148
6554
BZX55/C18
ALIN
ALO
ARO
ARIN
6552
BZX55/C4V7
6553
BZX55/C4V7
6551
BZX55/C4V7
6550
BZX55/C4V7
AUDIO
7550-3C
TC4053BP
6558
BZX55/C6V8
6557
BZX55/C6V8
7531
BC548B
TPC
6531
1N4148
6530
BZX75
C3V6
6532
1N4148
FOR OSD ONLY
150mV
AMLR
JFB AUD
ION RECORD
PRS.06393
T 02 009

1600	G14
1901	B32
1902	D26
2180	C1
2181	E3
2182	E3
2183	D1
2502	J27
2503	J28
2504	K14
2505	I14
2550	N17
2551	N22
2552	M23
2553	D25
2554	B24
2555	M20
2556	N20
2557	M22
2580	I30
2581	I32
2582	G24
2601	D6
2602	G6
2603	I7
2604	J8
2605	J7
2606	K7
2607	G15
2608	G14
2609	E9
2610	E9
2611	F8
2612	C18
2613	C18
2614	E5
2908	D28
3180	C2
3181	C2
3182	D2
3183	E2
3503	H12
3505	I14
3506	I15
3507	H15
3510	J22
3511	I21
3512	J28
3513	J27
3514	J27
3515	J27
3516	O2
3517	B30
3518	B31
3519	L15
3530	N14
3531	O14
3532	M3
3536	L16
3537	L16
3538	M16
3540	M17
3550	M21
3551	N21
3552	K21
3553	P23
3554	N22
3555	K19
3558	K22
3559	M23
3560	M23
3565	O22
3566	M16
3567	K14
3570	A23
3571	B23
3572	O22
3574	C25
3575	C25
3580	H30
3581	I31
3582	I31
3583	H31
3584	F24
3585	G24
3603	E5
3604	D6
3605	F6
3606	I7
3607	I7
3608	J7
3609	J7
3610	K6
3611	B20
3612	F8
3613	E7
3614	G8
3615	E6
3617	G7
3618	H7
3619	F9
3620	D7
3621	I8
3622	J8
3901	D26
3902	C28
3903	D25
3904	D27
5501	K13
5510	B32
5550	M17
5601	F8
5602	E9
5603	B17
6181	E3
6182	E3
6501	L13
6502	K13
6503	K13
6510	I13
6512	B31
6530	N14
6531	N13
6532	O13
6550	O20
6551	N20
6552	M20
6553	N20
6554	M18
6556	L20
6557	N17
6558	N17
6559	J20
6560	K19
6561	K19
6563	M17
6601	E6
6602	J6
6603	F7
7180	D4
7501	I15
7502	J27
7503	B31
7531	N14
7533	L16
7550	C23
7550	I22
7550	M24
7552	C25
7580	I31
7581	G24
7600	E5
7603	I8
7604	D7
7605	G8
7607	G7
7650	B10
7901	D28

FAMILY BOARD FRONTEND JFB-FE

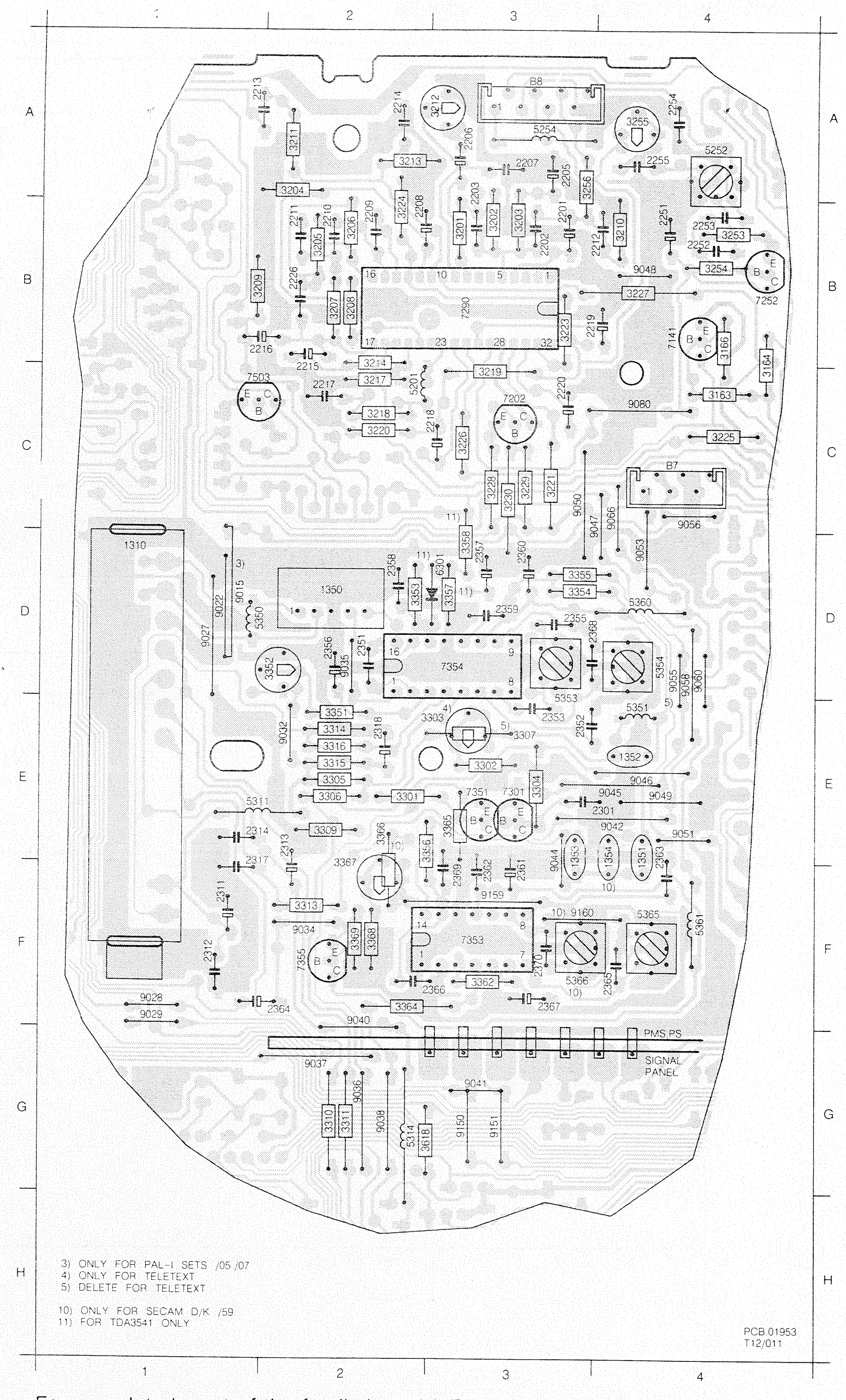

FAMILY BOARD-FRONT END JFB-FE
JFB-I/O
MFV
JFB-DE
+32a
+12a
+5a
7351
BC548B
3.4V
0.3V
47k
3365
5311
100μ
5314
100μ
2311
22μ
2312
22n
2313
22μ
2314
22n
1310
UV916E ✱
U944/IEC ✱✱
TUNER
ANTENNA INPUT
FROM MODULATOR
1350
OFWK2950
TSF5309 ✱✱
TSF5316 ✱
5350
1μ2
7354
TDA8341
2351
10n
5353
47p
0.34μ
5354
0.17μ
2368
100p
5360
22μ
2360
100μ
2359
10n
IF AGC
REF
WHITE SPOT INVERTER
φ 90°
ONLY FOR TELETEXT-SET
NOT FOR TELETEXT-SET
3307
330
VIDEO-LEVEL
3303
1k
5351
15μ
3354
150
1352
5.5MHz ✱
6.0MHz ✱✱
3301
390
3302
2k2
7301
BC548B
3304
270
2301
22n
12.2V
4.2V
2.8V
VFV
64μS
3V
5366
5365
2μ5
2370
220p
not for /59
330p ✱
270p ✱✱
7353
TBA120S
3366
680
1354
6.5MHz
3355
680
1351
5.5MHz ✱
6.0MHz ✱✱
30mV
3356
2366
22n
2369
22n
3364
47k
3362
1k
2367
100μ
2363
22n
5361
22μ
2362
22n
2361
100μ
7355
BC548B
3367
27k
3368
8k2
3369
1k
2364
10μ
AFV
1000Hz
1V
3313
22k
2317
22n
3315
8k2
3314
33k
3316
150
2318
10μ
3351
39k
2356
1μ
3352
10k
RF-AGC
2352
1n5
6301
1N4148
3353
1k
2357
1μ
2358
10n
3358
6k8
3357
3k3
□ = FOR TDA3541 ONLY
0.7V
SDA2
3311
10
SCL2
3310
1k
12DC1.JDC
1B4
AFC
3306
15k
3305
22k
3309
10k
MTA
PRS 06382
T02/009

✱ NOT FOR /05 SETS
✱✱ ONLY IN /05 SETS
▲ ONLY FOR /59 (PAL/SECAM B/G D/K)

V MEASURED IN PLAYBACK MODE
[V] MEASURED IN RECORD MODE

1310	B7
1350	C8
1351	F15
1352	D15
1354	F15
2301	D17
2311	B5
2312	B5
2313	B6
2314	B6
2317	G6
2318	F10
2351	C10
2352	F13
2356	F10
2357	G12
2358	G13
2359	C14
2360	C14
2361	F19
2362	F19
2363	F18
2364	G19
2365	E17
2366	G15
2367	H17
2368	B13
2369	G15
2370	E16
3301	D16
3302	D16
3303	D15
3304	C17
3305	K12
3306	K11
3307	C15
3309	L11
3310	J3
3311	J3
3313	F6
3314	F9
3315	F9
3316	F10
3351	F10
3352	F11
3353	F13
3354	D14
3355	F14
3356	G15
3357	F13
3358	F13
3362	H16
3364	H16
3365	A7
3366	F14
3367	F18
3368	G18
3369	G18
5311	B5
5314	B6
5350	D8
5351	D15
5353	A11
5354	A12
5360	B13
5361	E18
5365	E17
5366	E16
6301	F13
7301	D17
7351	A8
7353	F16
7354	C9
7355	F18

FAMILY BOARD FRONTEND JFB-FE
AUDIO LINEAR JFB-AUD



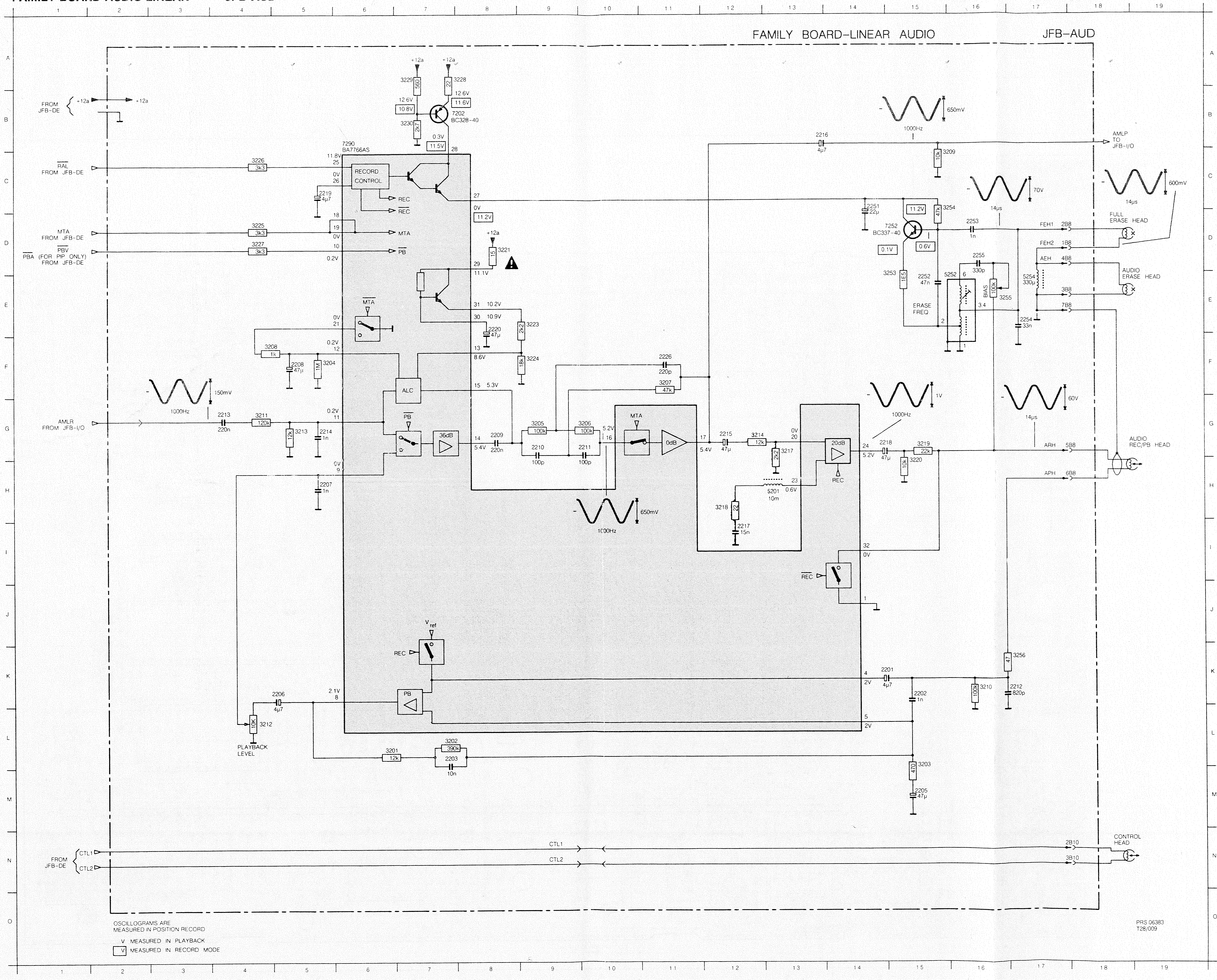
3) ONLY FOR PAL-I SETS /05 /07
4) ONLY FOR TELETEXT
5) DELETE FOR TELETEXT

10) ONLY FOR SECAM D/K /59
11) FOR TDA3541 ONLY

For complete layout of the family board (JFB) see page 3-14.

B7	C4
B8	A3
1310	D1
1350	D2
1351	F4
1352	E4
1353	F3
1354	F4
2201	B3
2202	B3
2203	B3
2205	A3
2206	A3
2207	A3
2208	B2
2209	B2
2210	B2
2211	B2
2212	B4
2213	A1
2214	A2
2215	C2
2216	B1
2217	C2
2218	C3
2219	B3
2220	C3
2226	B2
2251	B4
2252	B4
2253	B4
2254	A4
2255	A4
2301	E3
2311	F1
2312	F1
2313	E2
2314	E1
2317	F1
2318	E2
2351	D2
2352	E3
2353	E3
2355	D3
2356	D2
2357	D3
2358	D2
2359	D3
2360	D3
2361	F3
2362	F3
2363	F4
2364	F2
2365	F4
2366	F2
2367	F3
2368	D3
2369	F3
2370	F3
3163	C4
3164	C4
3166	B4
3201	B3
3202	B3
3203	B3
3204	A2
3205	B2
3206	B2
3207	B2
3208	B2
3209	B1
3210	B4
3211	A2
3212	A3
3213	A2
3214	C2
3217	C2
3218	C2
3219	C3
3220	C2
3221	C3
3223	B3
3224	B2
3225	C4
3226	C3
3227	B4
3228	C3
3229	C3
3230	C3
3253	B4
3254	B4
3255	A4
3256	A3
3301	E2
3302	E3
3303	E3
3304	E3
3305	E2
3306	E2
3307	E3
3309	E2
3310	G2
3311	G2
3313	F2
3314	E2
3315	E2
3316	E2
3351	E2
3352	D2
3353	D2
3354	D3
3355	D3
3356	F3
3357	D3
3358	D3
3362	F3
3364	F2
3365	E3
3366	F2
3367	F2
3368	F2
3369	F2
3618	G3
5201	C2
5252	A4
5254	A3
5311	E1
5314	G2
5350	D2
5351	E4
5353	D4
5354	D4
5360	D4
5361	F4
5365	F4
5366	F3
6301	D3
7141	B4
7202	C3
7252	B4
7290	B3
7301	E3
7351	E3
7353	F3
7354	D3
7355	F2
7503	C1
9015	D1
9022	D1
9027	D1
9028	F1
9029	F1
9032	E2
9034	F2
9035	D2
9036	G2
9037	G2
9038	G2
9040	F2
9041	G3
9042	E4
9044	F3
9045	E4
9046	E4
9047	D4
9048	B4
9049	E4
9050	C3
9051	E4
9053	D4
9055	D4
9056	C4
9058	D4
9060	D4
9066	C4
9080	C4
9150	G3
9151	G3
9159	F3
9160	F3

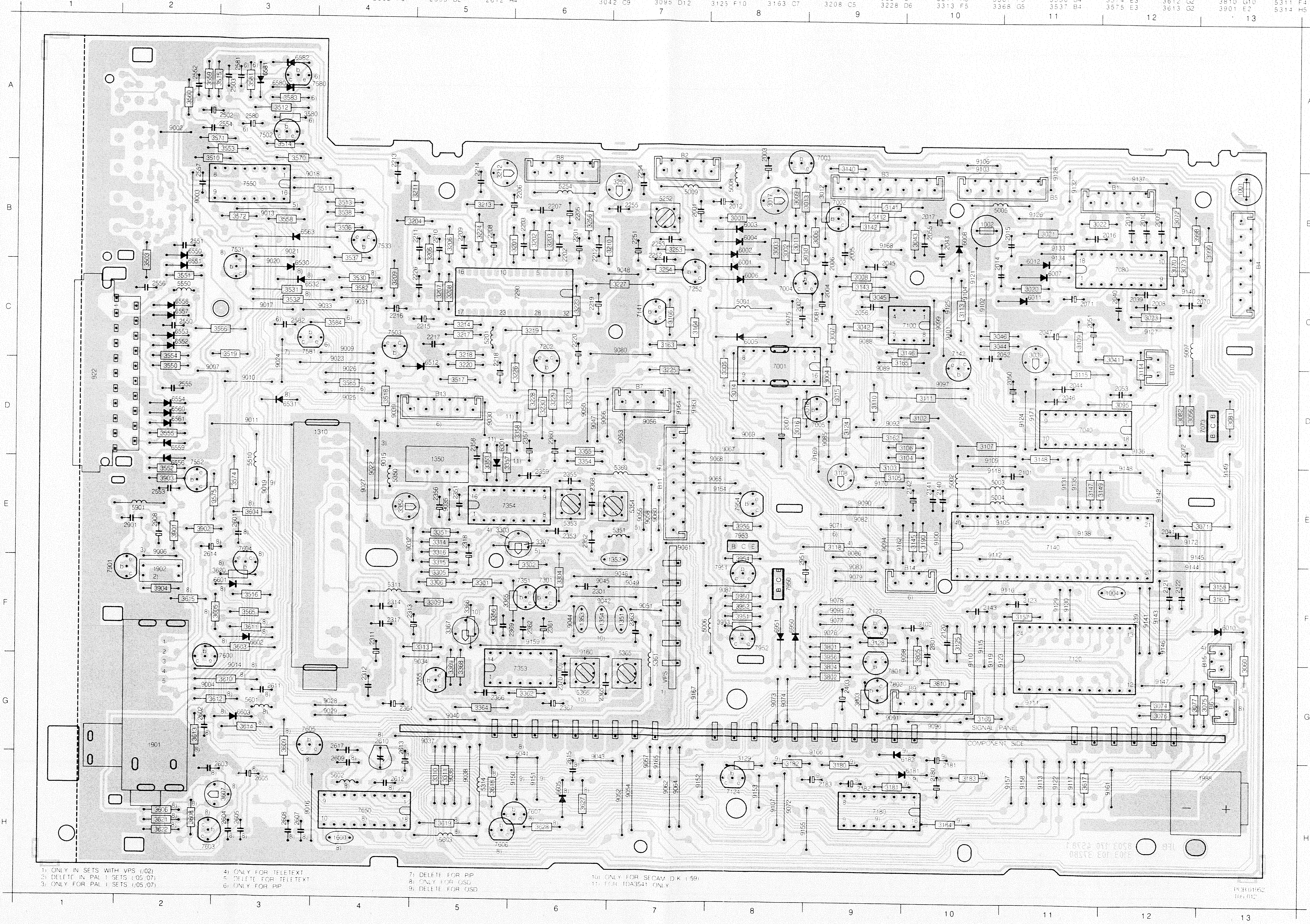
FAMILY BOARD-AUDIO LINEAR JFB-AUD


FAMILY BOARD-LINEAR AUDIO
JFB-AUD
FROM JFB-DE
+12a
RAL FROM JFB-DE
MTA FROM JFB-DE
PBV
PBA (FOR PIP ONLY) FROM JFB-DE
AMLR FROM JFB-I/O
7290 BA7766AS
RECORD CONTROL
REC
MTA
PB
ALC
36dB
0dB
20dB
Vref
7202 BC328-40
7252 BC337-40
ERASE FREQ
BIAS
AMLP TO JFB-I/O
FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
CONTROL HEAD
FEH1
FEH2
AEH
ARH
APH
CTL1
CTL2
PLAYBACK LEVEL
150mV
1000Hz
650mV
70V
14µs
600mV
1V
60V
OSCILLOGRAMS ARE MEASURED IN POSITION RECORD
V MEASURED IN PLAYBACK
V MEASURED IN RECORD MODE
PRS 06383
T28/009

2201	K15
2202	K15
2203	L 7
2205	M15
2206	K 5
2207	H 5
2208	F 5
2209	G 8
2210	G 9
2211	G10
2212	K17
2213	G 4
2214	G 5
2215	G12
2216	B13
2217	I 12
2218	G15
2219	C 5
2220	E 8
2226	F11
2251	C14
2252	E15
2253	D16
2254	E17
2255	D16
3201	L 6
3202	L 7
3203	L15
3204	F 5
3205	G 9
3206	G10
3207	F11
3208	F 4
3209	C16
3210	K16
3211	G 4
3212	L 4
3213	G 5
3214	G12
3217	G13
3218	H12
3219	G15
3220	H15
3221	D 8
3223	E 9
3224	F 9
3225	D 4
3226	C 4
3227	D 4
3228	A 8
3229	A 7
3230	B 7
3253	E15
3254	C16
3255	E16
3256	K17
5201	H13
5252	E16
5254	E17
7202	B 8
7252	D15
7290	B 6

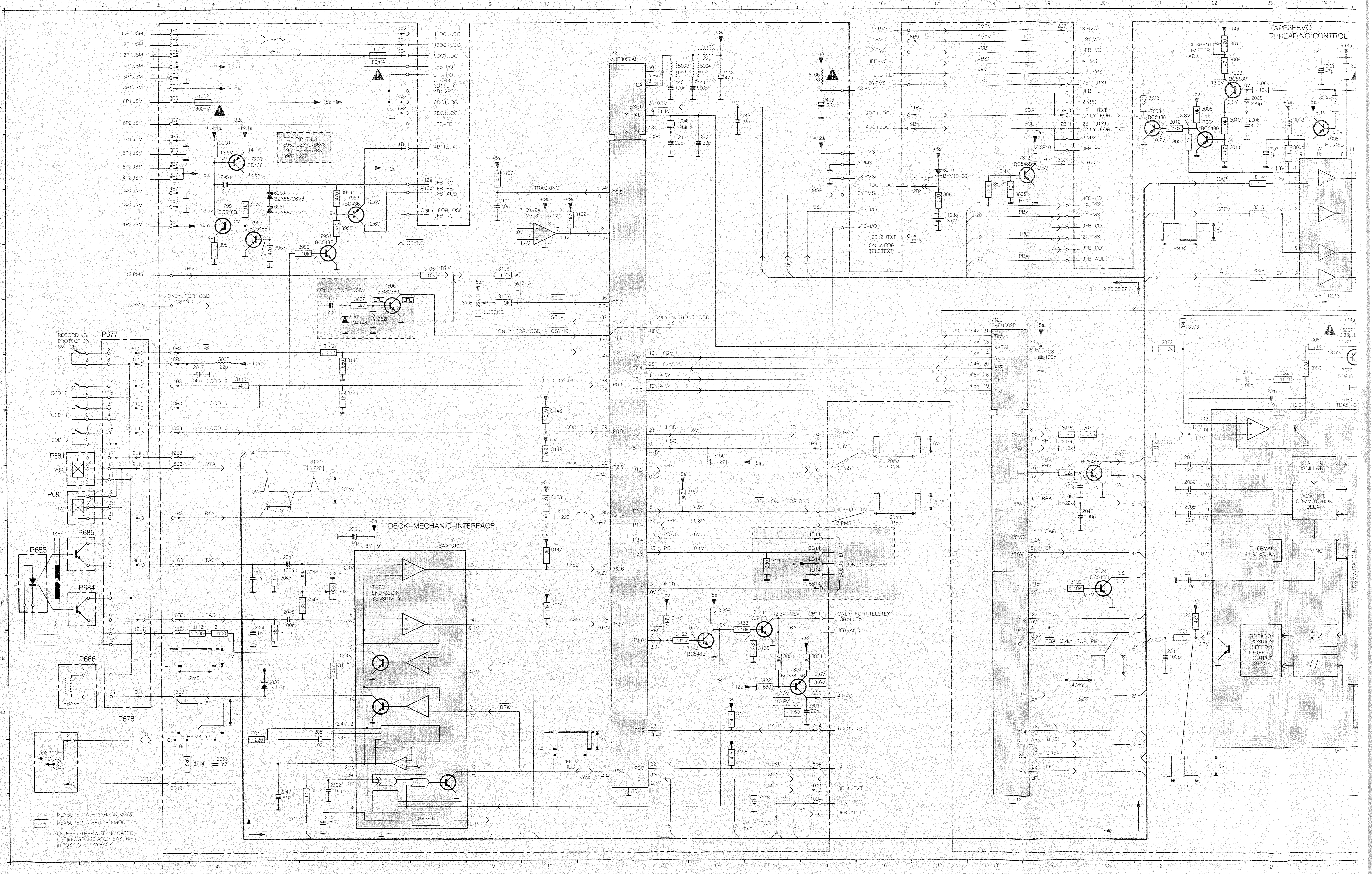
FAMILY BOARD-DECKCONTROL JFB-DE

B1	B12
B2	A7
B3	B9
B4	B13
B5	B11
B6	G13
B7	D7
B8	A6
B9	G10
B10	D12
B11	E7
B13	D5
B14	F10
B15	G13
B22	D1
VPS	G7
1001	B13
1002	B10
1004	F12
1310	D3
1350	E5
1351	F7
1352	F6
1353	F6
1354	F6
1600	H4
1901	G2
1902	F2
1988	H13
2001	B7
2002	C8
2003	A8
2004	C9
2005	B9
2006	C9
2007	D8
2008	C12
2009	B12
2010	B12
2011	B12
2012	B8
2014	C10
2015	B11
2016	B12
2017	B10
2039	C12
2040	C12
2041	E12
2043	B10
2044	D11
2045	B9
2046	D11
2047	C11
2050	D11
2051	C11
2052	C10
2053	D12
2055	B10
2056	C9
2070	C12
2071	C11
2072	D12
2101	E11
2102	F10
2120	F10
2121	F12
2122	F12
2123	F11
2140	E10
2141	E10
2142	E10
2143	F10
2180	H10
2181	H10
2182	H9
2183	H9
2201	B6
2202	B6
2203	B6
2205	B6
2206	B6
2207	B6
2208	B5
2209	B5
2210	B5
2211	B5
2212	B6
2213	B4
2214	B5
2215	C5
2216	C4
2217	C5
2218	D5
2219	C6
2220	C6
2226	C5
2251	B7
2252	B7
2253	B7
2254	B7
2255	B7
2301	F6
2311	F4
2312	G4
2313	F5
2314	F4
2317	F4
2318	E5
2351	E5
2352	E6
2353	E6
2355	E6
2356	E5
2357	D6
2358	D5
2359	E6
2360	D6
2361	F6
2362	F6
2363	F7
2364	G4
2365	G6
2366	G5
2367	G6
2368	E6
2369	F6
2370	G6
2403	G9
2502	A3
2503	A3
2550	C2
2551	B2
2552	A2
2553	E2
2554	A2
2555	D2
2556	C2
2557	B2
2580	A3
2581	A3
2582	C3
2601	E3
2602	G2
2603	H3
2604	H3
2605	H3
2605	H3
2607	H3
2608	H3
2609	H4
2610	G4
2611	G3
2612	H4
2613	H4
2614	F2
2615	H6
2617	G4
2801	F10
2901	E2
2908	E2
2951	F8
3001	B8
3002	B8
3003	B8
3004	D9
3005	D8
3006	B9
3007	C9
3008	C9
3009	B8
3010	B9
3011	B8
3012	B9
3013	B9
3014	D8
3015	D9
3016	D8
3017	B8
3018	D9
3020	C11
3021	B11
3022	B11
3023	C12
3039	C11
3041	C12
3042	C9
3043	B10
3044	C10
3045	C9
3046	C10
3056	D12
3060	G13
3070	C12
3071	E12
3072	B12
3073	C12
3074	G12
3075	G13
3076	G12
3077	G12
3081	D13
3082	D12
3095	D12
3102	D10
3103	E9
3104	D9
3105	E9
3106	D9
3107	D10
3108	E9
3109	C11
3110	D9
3111	D10
3112	B9
3113	C10
3114	D12
3115	D11
3118	E9
3124	D9
3125	F10
3128	F9
3129	H8
3140	B9
3141	B9
3142	B9
3143	C9
3145	E10
3146	C9
3147	E11
3148	D11
3149	E12
3157	F11
3158	F13
3160	G10
3161	F13
3162	D9
3163	C7
3164	C7
3165	C9
3166	C7
3180	H9
3181	H9
3182	H8
3183	H10
3184	H10
3190	E10
3201	B6
3202	B6
3203	B6
3204	B4
3205	B5
3206	B5
3207	C5
3208	C5
3209	C4
3210	B7
3211	B5
3212	B5
3213	B5
3214	C5
3217	C5
3218	C5
3219	C6
3220	D5
3221	D6
3223	C6
3224	B5
3225	D7
3226	D6
3227	C7
3228	D6
3229	D6
3230	D6
3253	B7
3254	C7
3255	B7
3256	B6
3301	F5
3302	F6
3303	E6
3304	F6
3305	F5
3306	F5
3307	E6
3309	F5
3310	H5
3311	H5
3313	F5
3314	E5
3315	F5
3316	E5
3351	E5
3352	E4
3353	E5
3354	E6
3355	D6
3356	F5
3357	E5
3358	D6
3362	G6
3364	G5
3365	F5
3366	F5
3367	F5
3368	G5
3369	G5
3503	C2
3510	A2
3511	B4
3512	A3
3513	B4
3514	A3
3515	A3
3516	F3
3517	D5
3518	D4
3519	C3
3530	C4
3531	C3
3532	C3
3536	B4
3537	B4
3538	B4
3550	D2
3551	C2
3552	E2
3553	A3
3554	D2
3555	D2
3558	B3
3559	A2
3560	A2
3565	F3
3566	C2
3570	A3
3571	A2
3572	B3
3574	E3
3575	E3
3580	A3
3581	A3
3582	C4
3583	A3
3584	C4
3585	D4
3603	F3
3604	E3
3605	F3
3606	H2
3607	H3
3608	H2
3609	H3
3610	G3
3611	F3
3612	G2
3613	G2
3614	G3
3615	F2
3617	H11
3618	H5
3619	H5
3620	F2
3621	H2
3622	H2
3627	H6
3628	H6
3801	F9
3802	G9
3803	G9
3804	G9
3805	F10
3810	G10
3901	E2
3902	E2
3903	E2
3904	F2
3950	F8
3951	F8
3952	F8
3953	F8
3954	E8
3955	E8
3956	F9
3998	B12
3999	B13
5001	C8
5002	E10
5254	B6
5311	F4
5314	H5
5350	E4
5351	E7
5353	E6
5354	E7
5360	E7
5361	G7
5365	F7
5366	G6
5510	E3
5550	C2
5601	G3
5602	H4
5603	H5
5901	E2
6001	B8
6002	B8
6003	B8
6004	B8
6005	C8
6006	C8
6007	C11
6008	B10
6010	F13
6011	C11
6012	B11
6181	H10
6182	H9
6301	D5
6512	D5
6530	C3
6531	D3
6532	C3
6550	B2
6551	C2
6552	C2
6553	C2
6554	D2
6556	E2
6557	C2
6558	C2
6559	D2
6560	D2
6561	D2
6563	B3
6580	A3
6581	A3
6581	A3
6582	A3
6601	F2
6602	F3
6603	G3
6605	H6
6950	F8
6951	F8
7001	D8
7002	B9
7003	A9
7004	C8
7005	D9
7040	D11
7073	D13
7080	C12
7100	C9
7120	F11
7123	F9
7124	H8
7140	E11
7141	C7
7142	C10
7180	H9
7202	C6
7252	C7
7290	C6
7301	F6
7351	F6
7353	G6
7354	E5
7355	G5
7502	A3
7503	C4
7531	B3
7533	B4
7550	B3
7552	E2
7580	A3
7581	C3
7600	G3
7603	H2
7604	E3
7605	G3
7606	H5
7607	H6
7650	H4
7801	G9
7802	G9
7901	F1
7950	F8
7951	F8
7952	F8
7953	E8
7954	E8
9002	A2
9003	B2
9004	G2
9006	E2
9007	D2
9009	C4
9010	D3
9011	D3
9013	B3
9014	G3
9015	E4
9016	H3
9017	C3
9018	B3
9019	E3
9020	C3
9021	B3
9022	E4
9023	D4
9024	D3
9025	D4
9026	D4
9027	E4
9028	G4
9029	G4
9030	D5
9031	C4
9032	E4
9033	C4
9034	G5
9035	E5
9036	H5
9037	G5
9038	H5
9039	D4
9040	G5
9041	H6
9042	F6
9043	H6
9044	F6
9045	F6
9046	F7
9047	D6
9048	C7
9049	F7
9050	D6
9051	F7
9052	H7
9053	D7
9054	H7
9055	E7
9056	D7
9057	H7
9058	E7
9060	E7
9061	E7
9062	H7
9064	H7
9065	E8
9066	D6
9067	D8
9068	D8
9069	D8
9071	E9
9072	H8
9073	G8
9074	G8
9075	C8
9076	F9
9077	F9
9078	F9
9079	F9
9080	C7
9081	C9
9082	E9
9083	F9
9085	D9
9086	E9
9087	F8
9088	C9
9089	D9
9090	E9
9091	G9
9092	D9
9094	E9
9095	F9
9096	G10
9097	D10
9098	F10
9099	C10
9100	E10
9101	C10
9102	C10
9103	B10
9104	C10
9105	E10
9106	A10
9107	H8
9109	D10
9110	G10
9111	G11
9112	E10
9113	H11
9115	F10
9116	F10
9117	H11
9118	E10
9119	G10
9121	C10
9122	H11
9123	G11
9124	D11
9125	C10
9126	B11
9127	C12
9128	B11
9129	F11
9130	F11
9131	E11
9132	B11
9133	B11
9134	B11
9135	E11
9136	D12
9137	B12
9138	E11
9139	F12
9140	C12
9141	F12
9142	E12
9143	F12
9144	F12
9145	E12
9146	F12
9147	G12
9148	E12
9149	E13
9150	H6
9151	H6
9152	H7
9153	H8
9154	E8
9155	H9
9157	H11
9158	H11
9159	F6
9160	F6
9161	H12
9162	E9
9163	D7
9164	D7
9165	H7
9166	G9
9167	G7
9168	B9
9169	D9
9170	E9
9171	D11
9172	E12

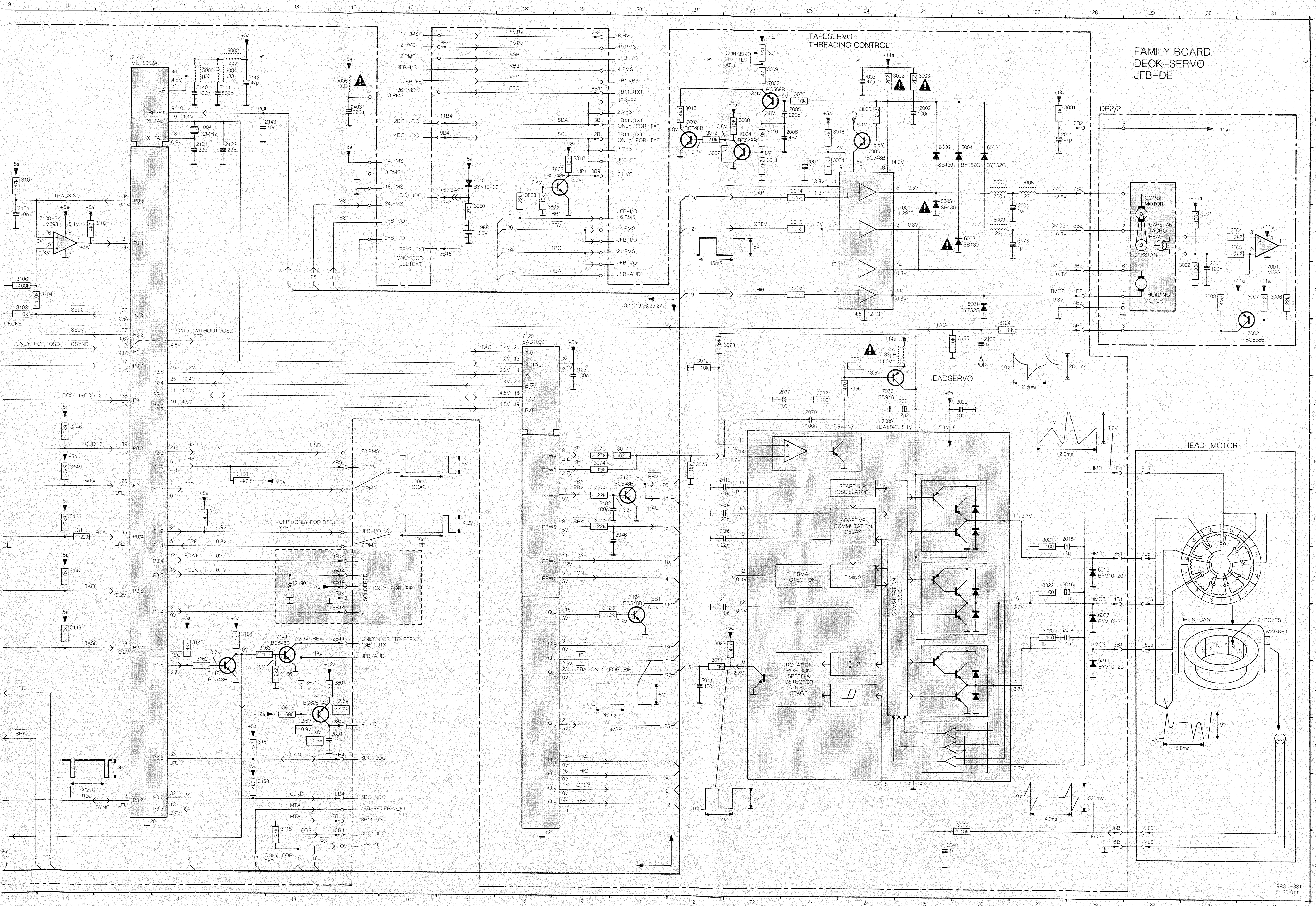


1) ONLY IN SETS WITH VPS (/02)
2) DELETE IN PAL I SETS (/05 /07)
3) ONLY FOR PAL I SETS (/05 /07)
4) ONLY FOR TELETEXT
5) DELETE FOR TELETEXT
6) ONLY FOR PIP
7) DELETE FOR PIP
8) ONLY FOR OSD
9) DELETE FOR OSD
10) ONLY FOR SECAM D/K (/59)
11) FOR TDA3541 ONLY

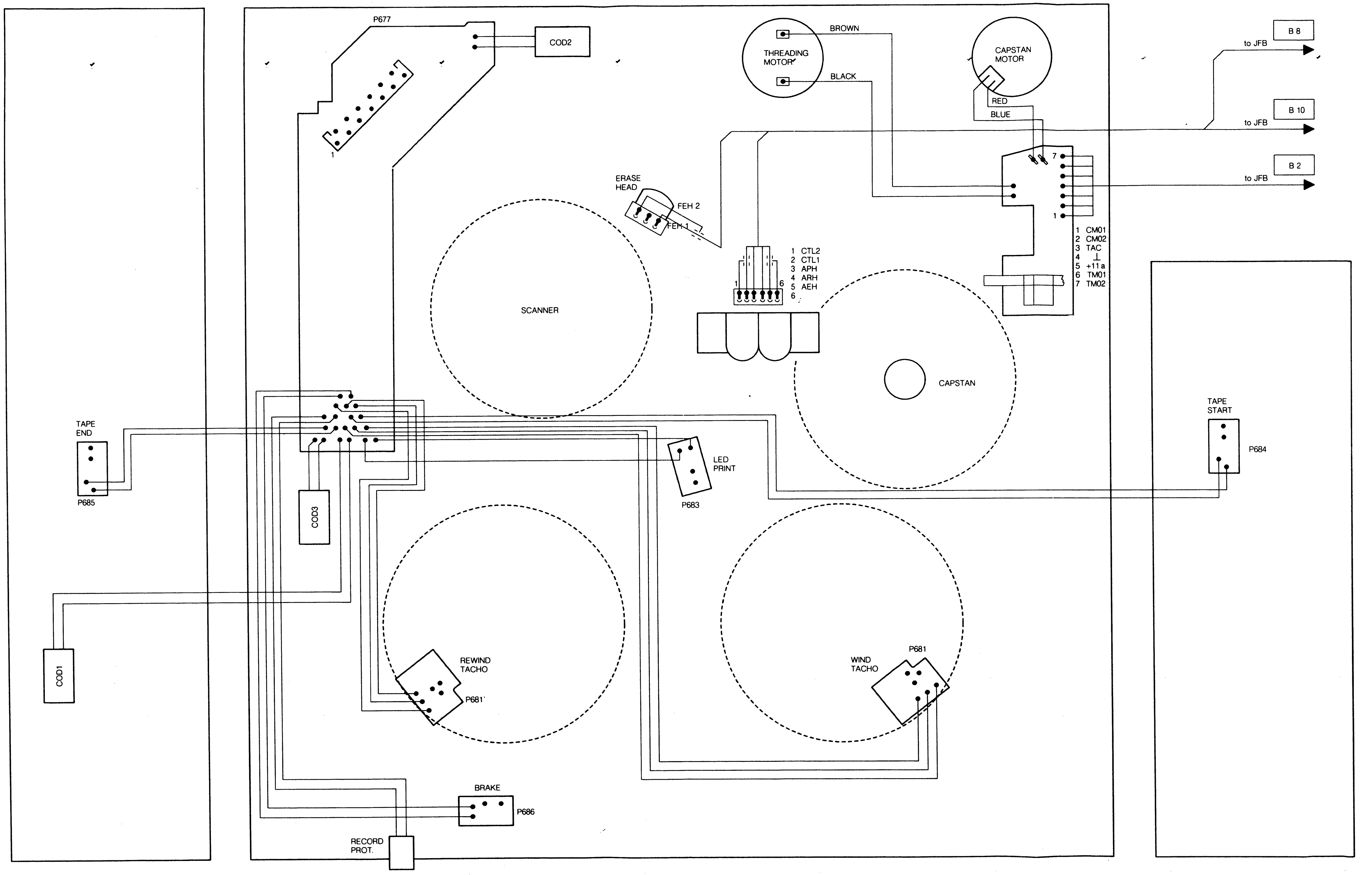
FAMILY BOARD-DECKCONTROL JFB-DE


TAPESERVO
THREADING CONTROL
DECK-MECHANIC-INTERFACE
7140 MUP8052AH
7120 SAD1009P
7040 SAA1310
7100-2A LM393
7606 ESM2369
FOR PIP ONLY:
6950 BZX79/B6V8
6951 BZX79/B4V7
3953 120E
RECORDING PROTECTION SWITCH
P677
P678
P681
P683
P684
P685
P686
TAPE
BRAKE
CONTROL HEAD
WTA
RTA
COD 1
COD 2
COD 3
TRACKING
ONLY FOR OSD
ONLY WITHOUT OSD
ONLY FOR PIP
ONLY FOR TELETEXT
TAPE END/BEGIN SENSITIVITY
RESET
START-UP OSCILLATOR
ADAPTIVE COMMUTATION DELAY
THERMAL PROTECTION
TIMING
ROTATION POSITION SPEED & DETECTOR OUTPUT STAGE
COMMUTATION
CURRENT LIMITTER ADJ
SOLDERED
12MHz
20ms SCAN
20ms PB
7mS
REC 40ms
40ms
2.2ms
45mS
270ms
180mV

V MEASURED IN PLAYBACK MODE
V MEASURED IN RECORD MODE
UNLESS OTHERWISE INDICATED OSCILLOGRAMS ARE MEASURED IN POSITION PLAYBACK


FAMILY BOARD
DECK-SERVO
JFB-DE
TAPESERVO
THREADING CONTROL
HEADSERVO
HEAD MOTOR
DP2/2
7140 MUP8052AH
EA
RESET
X-TAL1
X-TAL2
1004 12MHz
POR
TRACKING
7100-2A LM393
SELL
SELV
ONLY FOR OSD
CSYNC
ONLY WITHOUT OSD STP
COD 1+COD 2
COD 3
WTA
RTA
TAED
TASD
LED
BRK
REC
SYNC
40ms REC
7120 SAD1009P
TIM
X-TAL
S/L
R/O
TXD
RXD
PPW4
PPW3
PPW6
PPW5
PPW7
PPW1
HSD
HSC
FFP
FRP
PDAT
PCLK
INPR
DATD
CLKD
MTA
PAL
ONLY FOR TXT
OFP (ONLY FOR OSD) YTP
SOLDERED
ONLY FOR PIP
20ms SCAN
20ms PB
ONLY FOR TELETEXT 13B11 JTXT
JFB-AUD
4.HVC
6DC1.JDC
5DC1.JDC
JFB-FE.JFB-AUD
8B11.JTXT
3DC1.JDC
JFB-AUD
7141 BC548B
7142 BC548B
7801 BC328-40
7802 BC548B
7123 BC548B
7124 BC548B
RL
RH
PBA
PBV
CAP
ON
ES1
TPC
HP1
PBA ONLY FOR PIP
MSP
MTA
THIO
CREV
LED
40ms
17.PMS
2.HVC
2.PMS
JFB-I/O
JFB-FE
26.PMS
13.PMS
2DC1.JDC
4DC1.JDC
14.PMS
3.PMS
18.PMS
24.PMS
1DC1.JDC
2B12.JTXT
ONLY FOR TELETEXT
FMRV
FMPV
VSB
VBS1
VFV
FSC
SDA
SCL
8.HVC
19.PMS
4.PMS
1B1.VPS
7B11.JTXT
2.VPS
1B11.JTXT ONLY FOR TXT
2B11.JTXT ONLY FOR TXT
3.VPS
7.HVC
16.PMS
11.PMS
21.PMS
6010 BYV10-30
1988 3.6V
+5 BATT
3.11.19.20.25.27
CURRENT LIMITTER ADJ
7002 BC558B
7003 BC548B
7004 BC548B
7005 BC548B
7001 L293B
THI0
6006 SB130
6004 BYT52G
6002 BYT52G
6005 SB130
6003 SB130
6001 BYT52G
CMO1
CMO2
TMO1
TMO2
COMBI MOTOR
CAPSTAN TACHO HEAD
CAPSTAN
THEADING MOTOR
7001 LM393
7002 BC858B
TAC
7073 BD946
7080 TDA5140
START-UP OSCILLATOR
ADAPTIVE COMMUTATION DELAY
THERMAL PROTECTION
TIMING
COMMUTATION LOGIC
ROTATION POSITION SPEED & DETECTOR OUTPUT STAGE
: 2
6012 BYV10-20
6007 BYV10-20
6011 BYV10-20
HMO
HMO1
HMO3
HMO2
POS
IRON CAN
12 POLES
MAGNET
6.8ms
2.2ms
40ms
45mS
2.8ms
260mV
520mV
PRS 06381
T 26/011

1001	A7
1002	B4
1004	B12
2001	B27
2002	B25
2002	E30
2003	A24
2004	D27
2005	B23
2006	B23
2007	C23
2008	I 22
2009	I 22
2010	H22
2011	K22
2012	D27
2014	K28
2015	I 28
2016	J28
2017	G4
2039	G26
2040	O25
2041	L21
2043	J5
2044	O6
2045	K5
2046	I 20
2047	O5
2050	J7
2051	M6
2052	N6
2053	N4
2055	K5
2056	L5
2070	G23
2071	G25
2072	G23
2101	D9
2102	I 19
2120	F26
2121	C12
2122	C13
2123	G19
2140	B12
2141	B13
2142	A13
2143	B13
2403	B15
2615	F6
2801	M15
2951	C4
3001	B27
3001	D30
3002	A24
3002	E29
3003	A25
3003	E30
3004	C23
3004	D30
3005	B24
3005	D30
3006	B23
3006	E31
3007	C21
3007	E31
3008	B22
3009	A22
3010	B22
3011	C22
3012	B21
3013	B21
3014	C23
3015	D23
3016	E23
3017	A22
3018	B23
3020	K27
3021	I 27
3022	J27
3023	K21
3039	K6
3041	M5
3042	O6
3043	K5
3044	K6
3045	L5
3046	K6
3056	G24
3060	D17
3070	N26
3071	L21
3072	F21
3073	F22
3074	H19
3075	H21
3076	H19
3077	H20
3081	F24
3082	G23
3095	I 19
3102	D11
3103	E9
3104	E10
3105	E8
3106	E9
3107	C9
3108	F9
3110	H6
3111	I 10
3112	K4
3113	K4
3114	N4
3115	L6
3118	O14
3124	F26
3125	F26
3128	I 19
3129	K19
3140	G4
3141	G6
3142	F6
3143	G6
3145	K12
3146	H10
3147	J10
3148	K10
3149	H10
3157	I 13
3158	N13
3160	H13
3161	M13
3162	L12
3163	K13
3164	K13
3165	I 10
3166	L14
3190	J14
3627	F7
3628	F7
3801	L14
3802	L14
3803	C18
3804	L15
3805	D18
3810	C19
3950	C4
3951	E4
3952	D5
3955	D6
3956	E6
5001	C26
5002	A13
5003	A13
5004	A13
5005	G4
5006	A15
5007	F24
5008	C27
5009	D26
6001	E26
6002	C26
6003	D26
6004	C26
6005	D25
6006	C25
6007	K28
6008	M5
6010	C17
6011	L28
6012	J28
6605	F6
6950	D5
6951	D5
7001	D25
7001	E31
7002	A22
7002	F31
7003	B21
7004	B22
7005	C24
7040	J8
7073	G24
7080	G24
7100	D10
7120	F18
7123	H20
7124	J20
7140	A11
7141	K14
7142	L13
7606	E7
7801	L14
7802	C19
7950	C5
7951	D4
7952	D5
7953	D7
7954	D6


P677
1
COD2
THREADING MOTOR
BROWN
BLACK
CAPSTAN MOTOR
RED
BLUE
B 8
to JFB
B 10
to JFB
B 2
to JFB
7
1
1 CM01
2 CM02
3 TAC
4 ⊥
5 +11 a
6 TM01
7 TM02
ERASE HEAD
FEH 2
FEH 1
1
6
1 CTL2
2 CTL1
3 APH
4 ARH
5 AEH
6
SCANNER
CAPSTAN
TAPE END
P685
TAPE START
P684
LED PRINT
P683
COD3
COD1
REWIND TACHO
P681
WIND TACHO
P681
BRAKE
P686
RECORD PROT.

MDA.02594
T05/011

(D) Family Board JFB

1. Die Einstellungen für den 'front-end'-Teil JFB-FE

1.1 Einstellung des AFC-Kreises (5354)

- Ein 38,9MHz-Signal an den Eingang des SAW-Filters (Pos. 1350) einkoppeln.
- Ein Voltmeter an Knotenpunkt R3309/3306 schalten.
- Mit AFC-Spule 5354 die Gleichspannung auf 2,5 V regeln.

1.2 Einstellung des Videodemodulators (5353)

- Ein Signal mit Schwarzweisssprung dem Antenneneingang zuführen.
- Oszilloskop an E-7301 schalten.
- Mit der Demodulatorspule 5353 den Videodemodulator auf symmetrischen Schwarzweisssprung einstellen. Dies ist auch auf dem Fensehschirm erkennbar.

1.3 Einstellung des Videoausgangspegels (3303)

(nur in Teletext Geräten)

- Standard-Videosignal dem Antenneneingang zuführen.
- Oszilloskop an E-7301 schalten.
- Mit Widerstand 3303 die Ausgangsspannung auf 2 Vss regeln.

1.4 Einstellung des Tondemodulators (5365)

- Ein Standard-Videosignal (z.B. Fernsehsender) auf den Antenneneingang einkoppeln.
- Oszilloskop an Anschluss 8 von IC7353 (TBA12OS) schalten.
- Mit der Demodulatorspule 5365 auf höchste Ausgangsspannung und kleinste Verzerrung regeln.

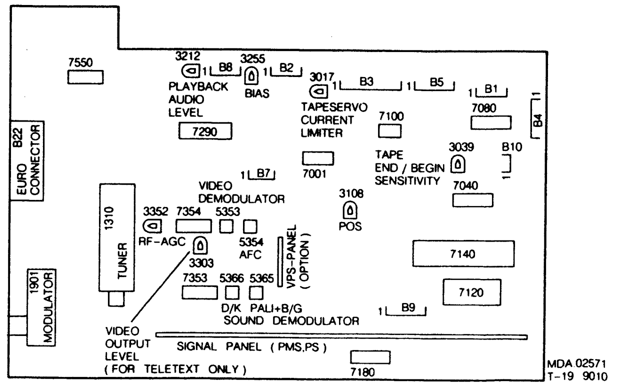
1.4.1 Einstellung des Tondemodulatos (5366) (nur für /59, SECAM D/K)

- Osttonsender Kanal 41 (SECAM K mit 25kHz Hub ± 1kHz empfangen.
- Oszilloskop an Anschluss 8 von IC 7353 schalten.
- Mit Spule 5366 auf minimal Klirrfaktor einstellen.

Die sich daraus ergebene Audioamplitude muss 0.6 Veff ± 2dB betragen. Nach dieser Einstellung ist der Abgleich des 5.5MHz Ton Demodulatorkreises (Einstellung 1.4) nochmals zu kontrolieren und bei Bedarf nachzustellen.

1.5 Einstellung der AVR-NF (3352)

- Einen Mustergenerator, auf Kanal E25 eingestellt und mit einer Ausgangsspannung von 2,2 mV (67 dB µV) an den Antenneneingang schalten.
- 3352 voll linksherum drehen (Schleifer an Masse).
- 'front-end' auf Kanal 25 abstimmen und Oszilloskop an Anschluss 1 der ZF-Einheit (Eingangskapazität ⩾ 2,5 pF) schalten.
- 3352 nun so weit zurückregeln, dass die Amplitude des gemessenen HF-Signals gerade abnimmt (max. 2-3dB).



2. Die Einstellungen für den Linearaudioteil JFB-AVD

2.1 Einstellung des Vormagnetisierungsstroms (3255)

- Millivoltmeter an R3256 anschliessen (Differenz messung).
- Gerät in Stellung "AUFNAHME" bringen.

Mit Hilfe von 3255 die Spannung auf 14 mVeff (70 kHz) regeln.

Kontrolle der 'bias'-Einstellung

Nachdem der 'bias' eingestellt worden ist, mit angegebenen Richtwert, eine Musikaufnahme machen und sie wiedergeben. Verwenden sie Cassetten von bekannten Herstellern, jedoch kein Chromdioxydband. Kontrollieren, ob in ausreichender Zahl Höhen wiedergegeben werden, oder ob der Klang nicht verzerrt ist. Wenn der Höhenanteil zu gering ist, muss der 'bias'-Strom ein wenig reduziert werden. Wenn die Verzerrung zu gross ist, muss der 'bias'-Strom ein wenig erhöht werden.

2.2 Wiedergabe Amplitudeneinstellung (3212)

- Aufnahme eines Signals von 500 mVeff 1 kHz machen.
- Millivoltmeter an 1B22 (Eurokonnektor – Audio aus) schalten.
- Diese Aufnahme wiedergeben.

Mit Hilfe von 3212 die Wiedergabe auf 500 mVeff regeln.

3. Die Einstellungen für den Servoteil JFB-DE

3.1 Positionseinstellung (3108)

- Ya-Eingang eines Oszilloskops an 19B22 (Video aus Eurokonnektor) anschliessen.
- Yb-Eingang eines Oszilloskops an Prüfstift HP1 auf Kopfverstärker HVC anschliessen.
- Oszilloskop auf Yb triggern.
- Testcassette 4822 397 30103 wiedergeben.
- Während der Einstellung die PLAY-Taste gedrückt halten.
- 3108 dahin regeln, dass die positiv verlaufende Flanke in dem HP1-Signal sich 400 µs ± 32 µs (etwa 5 1/2 Linien) vor der Vorderflanke des Rasterimpulses befindet (siehe Bild 1).

3.2 Einstellung Bandanfang- Bandende Empfindlichkeit (3039)

- Lift ohne Kassette absenken (rechten Liftschutz beachten).
- die Signale TAED (IC7040/15) und TASD (IC7040/14) auf einen Zweistrahloszillograph bringen.
- 3039 auf Masse drehen
- wenn beide Impulse > 0.5 ms ist Abgleich in Ordnung
- falls nicht, mit 3039 den schmäleren Impuls auf 0.5 ms einstellen.

3.3 Einstellung Bandservoc Strombegrenzung (3017)

- Ein Voltmeter parallel zu R3002/R3003 (2x 2.2Ω) schalten
- Das Gerät in "WIND" oder "REWIND" bringen
- Kapstanmotor (Schwungmasse) vorsichtig mit der Hand abbrembsen, die Spannung kurz vor Stillstand beobachten
- es sollten 0.9 V± 0.06 V sein
- falls dies nicht der Fall ist vorsichtig 3017 regeln, danach die gesamte Prozedur nocheinmal durchführen.

(GB) Family Board JFB

Adjustments

1. The adjustments for the front-end section JFB-FE

1.1 Adjustment of the AFC circuit (5354)

- Apply a 38,9 MHz signal to the input of the SAW filter (item 1350).
- Connect a voltmeter to point R3306/3309.
- Adjust AFC coil 5354 to a DC voltage of 2.5 V.

1.2 Adjustment of the video demodulator (5353)

- Apply a signal with black-white jump to the aerial input.
- Connect an oscilloscope to E-7301.
- Adjust with demodulator coil 5353 the video demodulator for a symmetric black-white jump. This is also visible on the TV screen.

1.3 Adjustment of the video output level (3303)

(only for teletext sets)

- Apply standard video signal to the aerial input.
- Connect an oscilloscope to E-7301.
- Adjust resistor 3303 for an output voltage of 2 Vpp.

1.4 Adjustment of the sound demodulator (5365)

- Apply a standard video signal (e.g. TV transmitter) to the aerial input.
- Connect an oscilloscope to pin 8 of IC 7353 (TBA120S).
- Adjust demodulator coil 5365 for maximum output voltage and minimum distortion.

1.4.1 Adjustment of the sound demodulator (5366) (only for /59 SECAM D/K)

- Apply a SECAM K-transmitter (canal 41 25 ± 1 kHz sweep).
- Connect an oscilloscope to pin 8 of IC7353 (TBA 120S)
- Adjust demodulator coil 5366 for minimum distortion.
- As a result the audio level have to be 0.6V_{eff} ± 2 dB.
- After that you should control the 5.5 MHz sound demodulator adjustment (1.4) and if necessary correct them.

1.5 Adjustment of the RF AGC (3352)

- Connect a pattern generator, adjusted for channel E25 and having an output voltage of 2,2 mV (67 dB µV) to the aerial input.
- Turn 3352 fully counterclockwise (wiper to ground).
- Tune the front-end to channel 25 and connect an oscilloscope to pin 1 of the IF unit (Cin ⩽ 2,5 pF).
- Adjust 3352 back until the amplitude of the measured RF signal is just going to decrease (max. 2-3 dB).

2. The adjustments for the linear audio section JFB-AUD

2.1 Adjustment of the bias current (3255)

- Connect millivoltmeter to 3256 (difference measurement).
- Select "RECORD" mode.

Adjust 3255 for a voltage of 14 mVrms (70 kHz).

Check of the bias adjustment

Make after the bias has been adjusted to the indicated target value a music recording and play it. Check if sufficient treble is reproduced or if the sound is not distorted. If the treble share is too small, the bias current has to be reduced slightly. If the distortion is too great, the bias current has to be increased slightly.
Use cassettes of a well-known brand, however no chromium dioxide cassettes.

2.2 Playback amplitude adjustment (3212)

- Make a recording of a 500 mVrms 1 kHz signal.
- Connect millivoltmeter to 1B22 (Euro connector audio off).
- Play this recording.

Adjust 3212 for a playback at 500 mVrms.

3. The adjustments for the servo section JFB-DE

3.1 Position adjustment (3108)

- Connect Ya input of an oscilloscope to 19B22 (Video off Euro connector).
- Connect Yb input of an oscilloscope to test pin HP1 on head amplifier HVC.
- Trigger oscilloscope to Yb.
- Play test cassette 4822 397 30103.
- Keep the PLAY key depressed during adjustment.
- Adjust 3108 so that the positive going edge in the HP1 signal is leading 400 µs ± 32 µs (≈ 5 1/2 lines) (see Fig. 1) relative to the leading edge of the frame pulse.

3.2 Adjustment tapebeginn and end sensitivity (3039)

- Move lift without cassette down (think of right-hand lift protection)
- Connect the signal TAED (IC7040/15) and TASD (IC7040/14) to a two beam oscilloscope.
- Turn R3039 to earth side.
- If both pulses >0.5ms is the adjustment right.
- If not, adjust the smaller pulse with R3039 to 0.5ms.

3.3 Adjustment bandservo current limiter (3017)

- Connect a voltmeter parallel to R3002/R3003 (2x2.2Ω).
- Press the "wind" or "rewind" key.
- Lock the capstanmotor (flywheel) coutionsly by hand, short before stop watch the voltmeter.
- The voltage should be 0.9V ± 0.06V.
- If not, adjust coutiously R3017 and repeat the hole procedur.

4. ADJUSTMENTS FOR THE OSD-SECTION

4.1 Adjustment of the text position (C2610) on the screen

- Connect a pattern generator to the antenna input.
- Select "STOP" mode and press OSD-button on the remote control.
- Adjust the width of the text on the screen symmetrically by means of C2610.

4.2 Adjustment of the video output level (R3607)

- Press the TIMER-button.
- Adjust the Video Signal Amplitude 0,85 Vpp on the Scart plug B22 Pin 20 75Ω terminated by means of R3607.

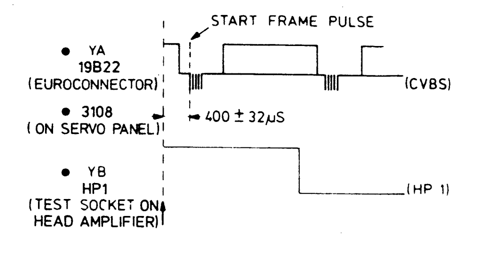


Fig. 1

45 193 A11

Ⓕ Family Board JFB

1. Réglages au frontal JFB-FE

1.1.Réglage du réseau de CAF (5354)

- Appliquer un signal de 38,9 MHz sur l'entrée du filtre SAW (rep. 1350)
- Brancher un voltmètre sur R3309/R3306.
- Ajuster la tension continue à 2.5 V avec la bobine de CAF 5354.

1.2 Réglage du démodulateur vidéo (5353)

- Appliquer sur l'entrée d'antenne un signal à saut noir/blanc.
- Brancher un oscilloscope sur E-7301.
- Ajuster le démodulateur vidéo pour un saut symétrique noir/blanc à l'aide de la bobine de démodulateur. C'est aussi visible sur l'écran TV.

1.3 Réglage du signal de sortie vidéo (3303) (Seulement pour les appareils munis d'un télétexte)

- Appliquer un signal vidéo standard sur l'entrée d'antenne.
- Brancher un oscilloscope sur E-7301.
- Ajuster la tension de sortie à 2Vcc par la résistance 3303.

1.4 Réglage du modulateur son (5365)

- Appliquer un signal vidéo standard (par exemple celui d'un émetteur TV) sur l'entrée d'antenne.
- Brancher un oscilloscope sur le point 8– IC 7353 (TBA120S).
- Par la bobine de démodulateur 5365, ajuster pour une tension de sortie maximum et un minimum de distorsion.

1.5 Réglage de la CAG–RF (3352)

- Brancher un générateur de mire, ajusté sur le canal E25 et ayant une tension de sortie de 2,2 mV (67 dB µV), sur l'entrée d'antenne.
- Tourner 3352 à fond sur la gauche (curseur à la masse).
- Accorder le frontal au canal 25 et brancher un oscilloscope sur la broche 1 de l'unité FI (Cin ⩾ 2,5 pF).
- Compenser le réglage de 3352 jusqu'à ce que l'amplitude du signal RF mesuré, diminue tout juste (2–3 dB, max.).

2. Réglages de la section son linéaire (JFB-AUD)

2.1 Réglage du courant de prémagnétisation (3255)

- Brancher le millivoltmètre sur 3256 (mesure différentielle).
- Mettre l'appareil en position "enregistrement".

Ajuster la tension à 14 mVeff (70 kHz) à l'aide de 3255.

Contrôle du réglage de prémagnétisation

Après que la prémagnétisation a été ajustée, procéder à l'enregistrement d'une séquence musicale à la valeur pilote indiquée et reproduire cet enregistrement. Vérifier si les aigus sont suffisamment reproduits et s'il y a distorsion. Si la part des aigus est trop petite, baisser un peu le courant de prémagnétisation. Si la distorsion est trop importante, il faudra hausser le courant de prémagnétisation.
Utiliser des cassettes de bonne marque et surtout pas au dioxyde de chrome.

2.2 Réglage de l'amplitude de lecture (3212)

- Procéder à l'enregistrement d'un signal de 500 mVeff 1 kHz.
- Brancher le millivoltmètre sur 1B22 (Euroconnecteur, sortie son).
- Reproduire cet enregistrement.

Ajuster la lecture à 500 mVeff avec 3212.

3. Réglages de la section d'asservissement (JFB-DE)

3.1 Réglage de la position (3108)

- Brancher l'entrée Ya d'un oscilloscope sur 19B22 (Euroconnecteur– sortie image).
- Brancher l'entrée Yb d'un oscilloscope sur la broche d'essai HP1 de l'ampli de tête HVC.
- Déclencher l'oscilloscope à Yb.
- Reproduire la cassette d'essai 4822 397 30103.
- Maintenir la touche PLAY appuyée pendant l'ajustage.
- Ajuster 3108 pour que le flanc en sens positif du signal HP1 se trouve en avance de 400 µsec ±32 µsec (≈ 5 1/2 lignes) sur le flanc avant de l'impulsion de trame (voir fig.1).

3.2 Réglage de la sensibilité de début-fin de bande (3039)

- Faire descendre le porte-cassette sans y insérer de cassette (attention à la protection à droite)
- Brancher les signaux TAED (IC 7040/15) et TASD (IC7040/14) sur un oscilloscope à deux faisceaux.
- Positionner R3039 sur la masse.
- L'équilibre est atteind quand les deux impulsions sont supérieures à 0.5 ms.
- Dans le cas contraire, régler à l'aide de R3039 l'impulsion la plus étroite sur 0,5 ms.

3.3 Réglage delimitation du courant du CMO (3017)

- Brancher un voltmètre en parallèle sur R3002/R3003 (2x2.2Ω).
- Mettre l'appareil sur "bobinage" ou "rebobinage".
- Freiner précautionneusement le moteur d'entrainement (volant d'inertie) avec la main et mesurer la tension juste avant l'arrêt du moteur.
- Celle-ci doit être de 0,9V ± 0,06V
- Dans le cas contraire, régler délicatement R3017 puis réitérer la prodédure compléte.

Ⓘ REGOLAZIONI FAMILY BOARD JFB

1. Regolazioni per la parte "front-end" (JFB-FE)

1.1 Regolazione del circuito-AFC (5354)

- Applicare un segnale 38,9MHz all'entrata del filtro-SAW (Pos.1350).
- Collegare un voltmetro alla giunzione R3309/3306.
- Regolare la tensione continua a 2,5V con la bobina-AFC 5354.

1.2 Regolazione del demodulatore video (5353)

- Applicare un segnale con mutamento bianco-nero all'entrata d'antenna.
- Collegare un'oscilloscopo a E-7301.
- Regolare il demodulatore video con la bobina demodulatore 5353 al mutamento bianco-nero simmetrico. Questo è anche riconoscibile sullo schermo del TV.

1.3 Regolazione del livello-video d'uscita (3303) (soltanto in apparecchi con teletext)

- Applicare il segnale video-standard all'entrata d'antenna.
- Collegare l'oscilloscopio a E-7301.
- Regolare la tensione d'uscita con il potenziometro 3303 a 2 Vpp.

1.4 Regolazione del demodulatore del suono (5365)

- Applicare un segnale video-standard (per esemp. trasmettitore di TV) all'entrata d'antenna.
- Collegare l'oscilloscopio al piedino 8 di IC7353 (TBA120S).
- Regolare per avere tensione d'uscita massima e a distorsione minima con la bobina demodulatore 5365.

1.5. Regolazione dell'AGC di RF (3352)

- Collegare un generatore di segnale, sintonizzato sul canale E25 e con una tensione d'uscita di 2,2 mV (67 dB µV), all'entrata d'antenna.
- Girare completamente in senso antiorario 3352 (cursore verso la massa).
- Sintonizzare "front-end" sul canale 25 e collegare l'oscilloscopio al piedino 1 dell'unità IF (capacità d'ingresso < 2,5 pF).
- Regolare 3352 finchè l'ampiezza del segnale-HF misurato diminuisca di (mass. 2-3 dB).

2. Regolazioni per la parte audio lineare JFB-AUD

2.1. Regolazione della corrente di premagnitizzazione (3255)

- Collegare il millivoltmetro a R3256 (misurazione differenziale).
- Portare l'apparecchio in posizione di registrazione.

Regolare la tensione con l'aiuto di 3255 a 14 mVeff (70kHz).

Controllo della posizione di premagnitizzazione

Dopo aver regolato la premagnitizzazione con valore indicato, fare una registrazione di musica e riprodurla. Usare cassette di produttori noti, non usare nastri "Chromdioxyd".
Controllare se vengono riprodotte sufficentemente le frequenze alte e se il suono non viene distorto.
Se il livello delle frequenze alte è basso bisogna ridurre un poco la corrente di premagnetizzazione. Se la distorsione è troppo grande bisogna aumentare un poco la corrente di premagnetizzazione.

2.2 Regolazione dell'ampiezza del segnale in riproduzione (3212)

- Registrare un segnale di 500 mVeff 1 kHz.
- Collegare un millivoltmetro a 1B22 (Euro-connettore-Audio "out").
- Riprodurre questa registrazione.

Regolare la riproduzione con l'aiuto di 3212 a 500 mVeff.

3. Regolazioni per la parte servo JFB-DE

3.1 Regolazione di posizione (3108) (GAP)

- Collegare l'entrata-Ya di un'oscilloscopio a 19B22 (Video di Euro-connettore).
- Collegare l'entrata-Yb di un'oscilloscopio al testpin HP1 nel preamplificatore testine HVC
- Triggerare l'oscilloscopio su Yb.
- Riprodurre la cassetta test 4822 397 30103.
- Tener premuto il tasto "PLAY" durante la regolazione.
- Regolare 3108 in modo che il fronte di salita degli HP sia in anticipo di 400 µs ± 32 µs (ca. 5 1/2 righe) rispetto al fronte di discesa del sincronismo di quadro (veda fig. 1).

3.2 Regolazione inizio nastro/fine nastro Sensibilità (3039)

- Abbassare il portacassetta senza cassetta (far attenzione alla protezione sulla destra)
- Portare i due segnali TAED (IC7040/15) e TASD (IC7040/14) su un'oscillografo a doppia traccia.
- Girare R3039 a massa
- L'accordo è a posto se tutti i due impulsi sono >0,5ms.
- Se non è cosí, regolare con R3039 l'impulso più stretto a 0,5ms.

3.3 Regolazione servo nastro limitazione di corrente (3017)

- Inserire un voltometro in parallelo a R3002/R3003 (2x2.2Ω).
- Portare l'apparecchio in posizione "Wind" o "Rewind".
- Fermare prudentemente a mano il motore-combi (volano). Prima della posizione di fermo osservare la tensione.
- Dovrebbe essere 0,9V±0,06V.
- Se non è cosí, regolare con prudenza R3017; dopo eseguire di nuovo tutto il procedimento.

Ⓔ Family Board JFB

1. Ajustes para la parte "front-end" JFB-FE

1.1 Ajuste del circuito-AFC (5354)

- Acople una señal de 38,9MHz a la entrada del filtro-SAW (pos. 1350).
- Conecte un voltímetro al punto R3309/3306.
- Ajuste con la bobina-AFC 5354 la tensión continua a 2,5 V.

1.2 Ajuste del demodulador video (5353)

- Aplique a la entrada de antena una señal con transición blanco/negro.
- Conecte un osciloscopio a E-7301.
- Ajuste el demodulador video con la bobina demoduladora 5353 a una transición blanco/negro simétrica. Esto es percepible también en la pantalla de televisión.

1.3 Ajuste del nivel de la salida video (3303)

(sólo en aparatos con teletexto)

- Aplique una señal de video-standard a la entrada de antena.
- Conecte un osciloscopio a E-7301.
- Ajuste la tensión de salida a 2 Vss con la resistencia 3303.

1.4 Ajuste del demodulador de sonido (5365)

- Aplique una señal de video-standard (por ejemplo emisora de televisión) a la entrada de antena.
- Conecte un osciloscopio al Pin 8 de IC7353 (TBA12OS)
- Ajuste con la bobina demoduladora 5365 a tensión de salida máx. y a distorsión mín.

1.5 Ajuste del AVR-NF (3352)

- Conecte un generador patrón, ajustado a canal E25 y con una tensión de salida de 2,2 mV (67 dB µV), a la entrada de antena.
- Gire 3352 totalmente a la izquierda (rectificador a masa).
- Sintonize "front-end" a canal 25 y conecte un osciloscopio a la conexión 1 de la unidad-ZF (capacidad de entrada > 2,5 pF).
- Ajuste 3352 hacia atrás, justo hasta que la amplitud de la señal-HF medida, empiece a disminuir (máx. 2-3 dB).

2. Ajustes para la parte audio lineal JFB-AUD

2.1 Ajuste de la corriente de premagnetización (3255)

- Conecte un milivoltímetro a R3256 (medición diferencia).
- Ponga el aparato en posición "record".

Ajuste la tensión a 14 mVeff (70kHz) con ayuda de 3255.

Control del ajuste-premagnetización.

Después de haber ajustada la premagnetización
con valor normativo indicado, haga una grabación
de música y la reproduzca. Utilice casetes de
fabricantes conocidos pero no cintas de
dióxido crómico.
Controle si se reproducen suficientes agudos
o si el sonido es distorsionado.
Si no hay suficientes agudos se debe
reducir un poco la corriente de premagnetización.
Si la distorsión es demasiado grande se debe, por el
contrario,
aumentar la corriente de premagnetización.

2.2 Reproducción ajuste de amplitud (3212)

- Haga una grabación de una señal de 500 mVeff 1 kHz.
- Conecte un milivoltímetro a 1B22 (conector Euro - Audio paro).
- Reproduzca esta grabación.

Ajuste la reproducción a 500 mVeff con ayuda de 3212.

3. Ajuste para la parte servo JFB-DE

3.1 Ajuste de posición (3108)

- Conecte entrada-Ya de un osciloscopio a 19B22 (Video de conector Euro).
- Conecte entrada-Yb de un osciloscopio al punto de prueba HP1 en el amplificador de cabezas HVC.
- Dispare el osciloscopio con la señal de Yb.
- Reproduzca la casete test 4822 397 30103.
- Tenga pulsada la tecla "play" durante el ajuste.
- Ajuste 3108 de manera que el borde que se extende positivamente en la señal-HP1 se encuentre 400 µs ± 32 µs (ca 5 1/2 líneas) delante del flanco delantero del impulso de cuadro (véase fig.1).

3.2 Ajuste sensibilidad principio/fin de cinta (3039)

- Avellane el elevador sin casete (tenga cuidado de la protección del elevador derecha).
- Ponga las señales TAED (IC7040/15) y TASD (IC7040/14) a un oscilógrafo de doble trazo.
- Gire R3039 a masa.
- La compensación está en orden si todos los dos impulsos son > 0,5ms.
- Si no es así, ajuste el impulso más estrecho a 0,5ms.

3.3 Ajuste servo cinta Limitación de corriente (3017)

- Conecte un voltímetro en paralelo a R3002/R3003 (2x2.2Ω).
- Ponga el aparato en posición "WIND" o "REWIND".
- Frene el motor combi (masa volante) prudentemente con la mano y observe poco antes de la parada la tensión.
- Tendrían que ser 0,9V ± 0,06V.
- Si no es así, ajuste prudentemente R3017, y después repita todo el procedimiento otra vez.

TELETEXT JTXT

B11	E1
B12	C3
1752	C2
1788	C5
1800	B5
1900	G2
2301	F4
2403	G3
2404	D2
2405	B2
2406	A1
2408	A5
2752	D3
2753	D3
2754	F5
2755	D1
2757	E4
2759	C4
2762	B5
2763	B5
2764	B5
2765	B5
2766	B5
2767	B5
2768	C5
2771	C5
2774	F4
2775	F4
2776	F4
2781	C5
2784	H2
2788	C4
2789	F2
2792	C4
2797	C4
2798	C5
2799	C5
2800	B5
2802	B4
2803	B4
2847	G4
2851	G3
2852	H4
2853	G4
2857	F4
2858	G4
2859	F4
2860	F3
2861	F3
2862	G4
2863	G3
2864	G3
2865	G3
2871	G1
2872	G1
2873	F2
2921	H2
3508	G5
3510	G2
3511	F5
3873	G2
3875	G2
3876	D1
3920	H1
3921	G2
3922	D2
3923	D2
3924	D2
3925	D2
3926	B4
3927	D3
3928	D3
5600	G3
5700	E3
5750	E3
5770	E2
5800	B4
5801	F3
6080	G1
6090	F3
6091	F1
6092	E1
6100	H2
6101	D3
6783	G4
7501	E1
7750	C2
7751	B2
7752	B1
7753	A4
7760	D4
7770	E5
7780	C5
7790	G4
7795	H4
7800	G2
7801	H1
7802	H3
7803	G1
7810	H1
7811	D2
7812	D3
7813	C4
9001	H2
9002	H2
9003	G3
9004	H3
9005	F2
9006	F3
9007	E5
9008	E2
9010	E2
9011	E4
9012	E5
9013	E4
9014	E5
9015	E4
9017	D5
9018	D5
9019	D2
9020	D5
9021	D5
9022	D4
9023	C4
9025	G2
9026	C2
9027	C2
9028	C1
9029	C2
9030	C4
9031	C2
9032	B3
9033	B2
9034	B3
9035	B1
9036	B3
9037	B3
9038	B3
9039	B3
9040	B1
9041	A1
9042	B3
9043	A1
9044	A2
9045	A5
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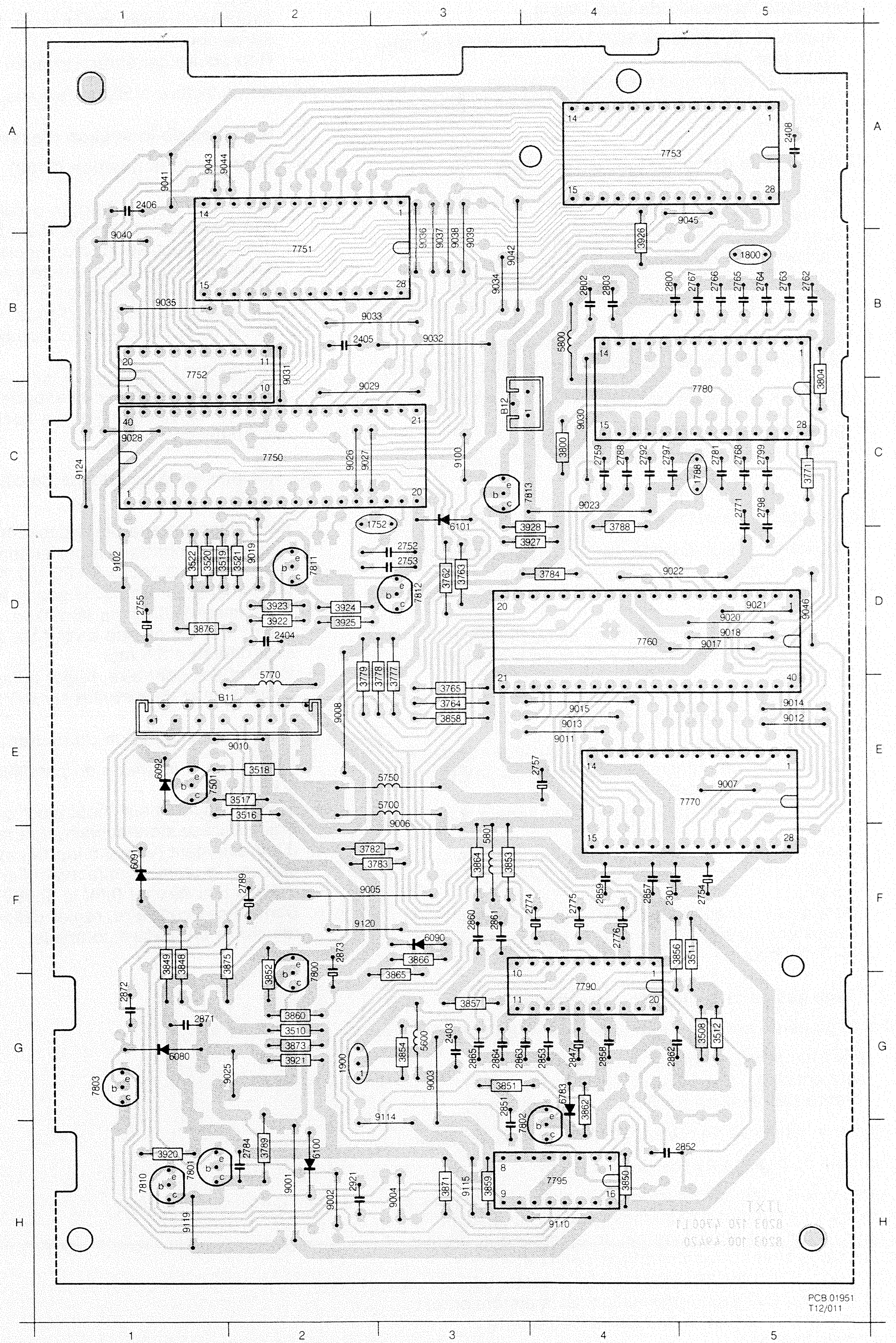
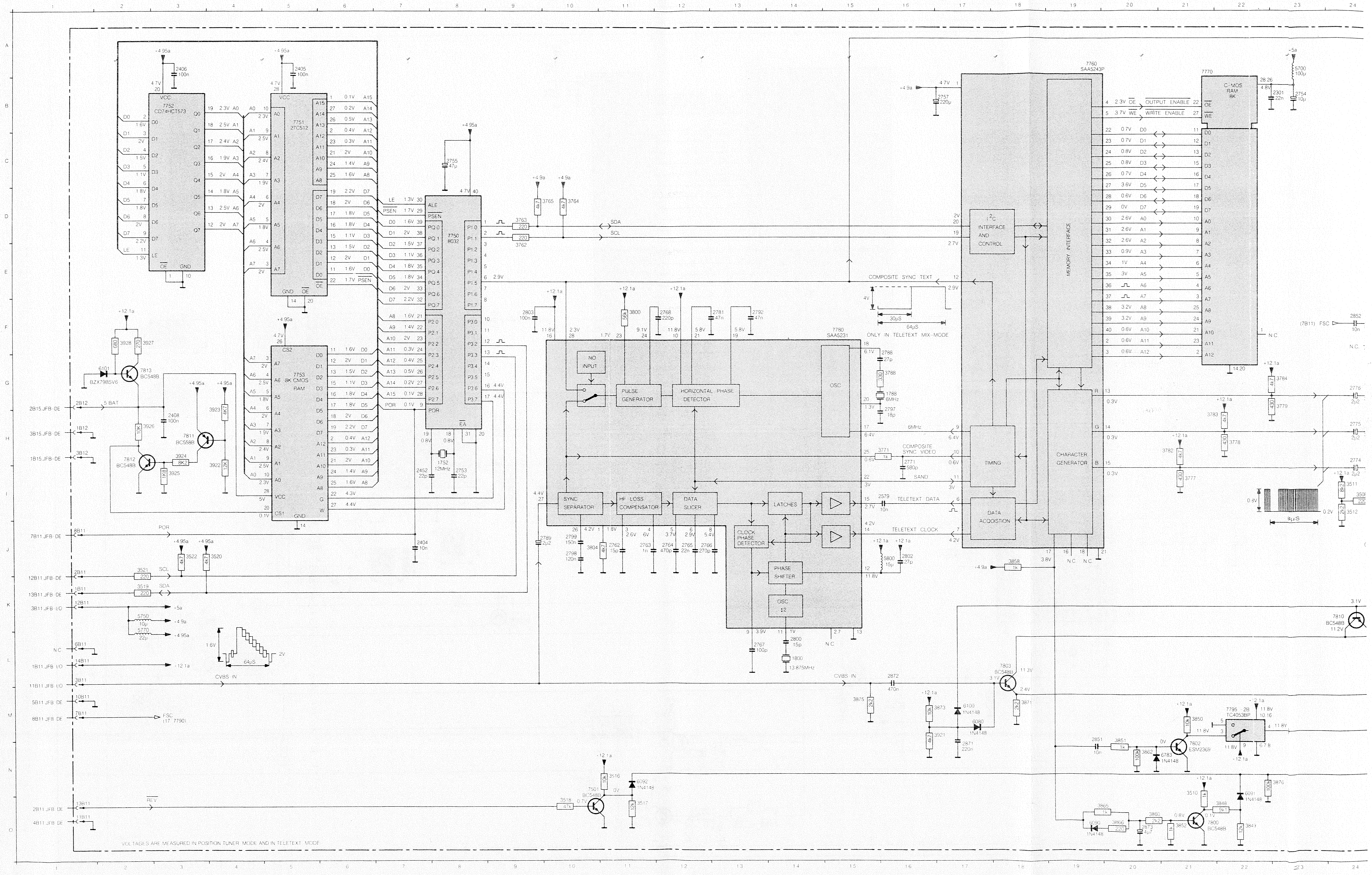
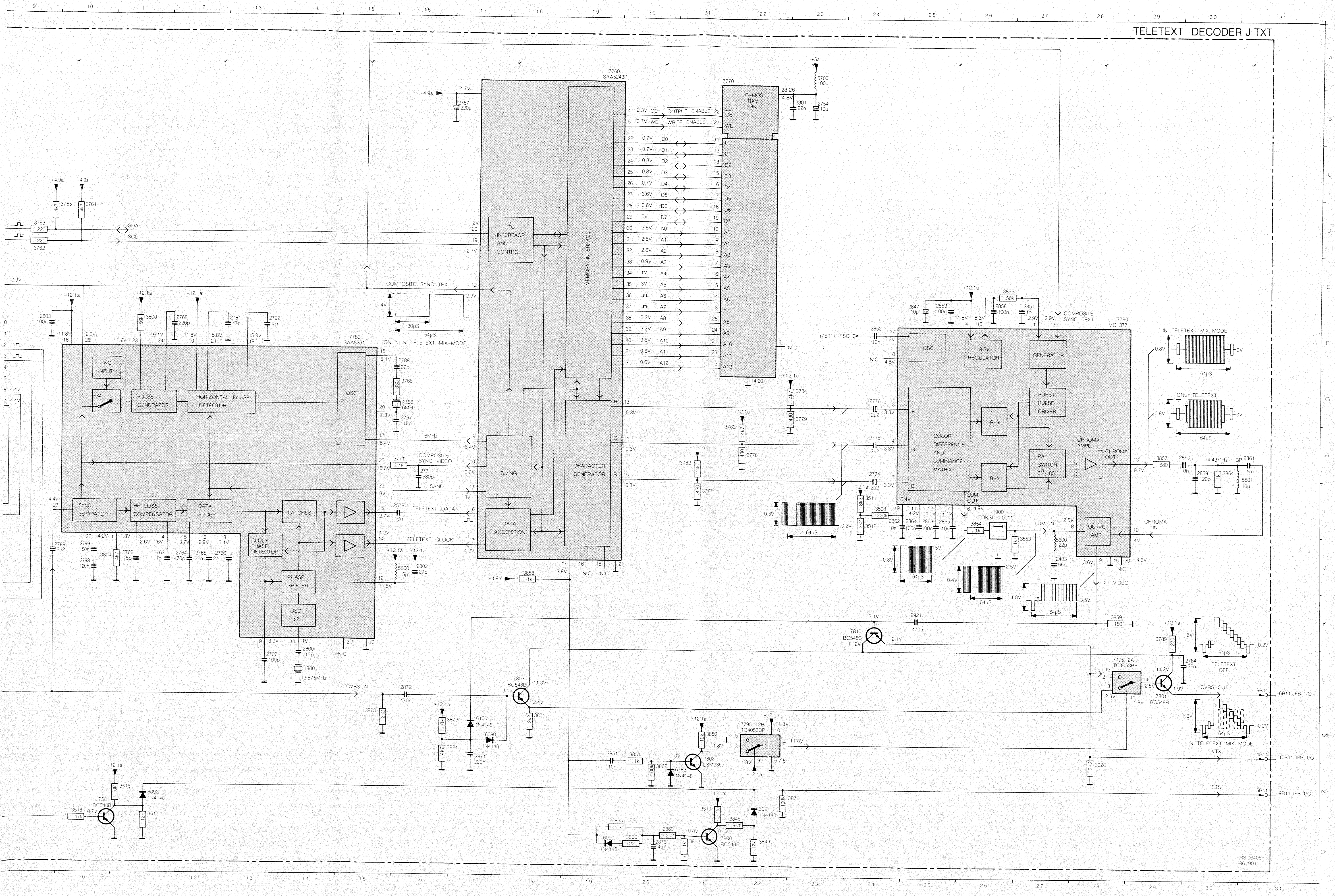
9119	H1
9120	F2
9124	C1




7752 CD74HCT573
7751 27C512
7753 8K CMOS RAM
7750 8032
1752 12MHz
7780 SAA5231
NO INPUT
PULSE GENERATOR
HORIZONTAL PHASE DETECTOR
OSC
SYNC SEPARATOR
HF LOSS COMPENSATOR
DATA SLICER
LATCHES
CLOCK PHASE DETECTOR
PHASE SHIFTER
OSC :2
1788 6MHz
1800 13.875MHz
7760 SAA5243P
I²C INTERFACE AND CONTROL
MEMORY INTERFACE
TIMING
DATA ACQUISTION
CHARACTER GENERATOR
7770 C-MOS RAM 8K
OUTPUT ENABLE
WRITE ENABLE
SDA
SCL
COMPOSITE SYNC TEXT
ONLY IN TELETEXT MIX-MODE
30μS
64μS
COMPOSITE SYNC VIDEO
SAND
TELETEXT DATA
TELETEXT CLOCK
6MHz
7813 BC548B
7811 BC558B
7812 BC548B
6101 BZX79B5V6
7501 BC548B
7803 BC548B
7802 ESM2369
7800 BC548B
7810 BC548B
7795 TC4053BP
6100 1N4148
6080 1N4148
6092 1N4148
6091 1N4148
6783 1N4148
6090 1N4148
2B15 JFB DE
3B15 JFB DE
1B15 JFB DE
7B11 JFB DE
12B11 JFB DE
13B11 JFB DE
3B11 JFB I/O
1B11 JFB I/O
11B11 JFB I/O
5B11 JFB DE
8B11 JFB DE
2B11 JFB DE
4B11 JFB DE
5 BAT
POR
SCL
SDA
CVBS IN
FSC (17 7790)
REV
(7B11) FSC
8μS
VOLTAGES ARE MEASURED IN POSITION TUNER MODE AND IN TELETEXT MODE

TELETEXT DECODER J TXT


7760
SAA5243P
MEMORY INTERFACE
I²C INTERFACE AND CONTROL
TIMING
DATA ACQUISITION
CHARACTER GENERATOR
7770
C-MOS RAM 8K
OUTPUT ENABLE
WRITE ENABLE
OE
WE
D0
D1
D2
D3
D4
D5
D6
D7
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
SDA
SCL
COMPOSITE SYNC TEXT
ONLY IN TELETEXT MIX-MODE
30μS
64μS
7780
SAA5231
NO INPUT
PULSE GENERATOR
HORIZONTAL PHASE DETECTOR
OSC
SYNC SEPARATOR
HF LOSS COMPENSATOR
DATA SLICER
LATCHES
CLOCK PHASE DETECTOR
PHASE SHIFTER
OSC ÷2
6MHz
COMPOSITE SYNC VIDEO
SAND
TELETEXT DATA
TELETEXT CLOCK
1788 6MHz
1800 13.875MHz
CVBS IN
7790
MC1377
OSC
8.2V REGULATOR
GENERATOR
BURST PULSE DRIVER
COLOR DIFFERENCE AND LUMINANCE MATRIX
R-Y
B-Y
PAL SWITCH 0°/180°
CHROMA AMPL.
CHROMA OUT
OUTPUT AMP
LUM OUT
LUM IN
CHROMA IN
COMPOSITE SYNC TEXT
(7B11) FSC
1900 TDKSDL-0011
4.43MHz BP
IN TELETEXT MIX-MODE
ONLY TELETEXT
TXT VIDEO
TELETEXT OFF
CVBS OUT
IN TELETEXT MIX MODE
VTX
STS
7810 BC548B
7803 BC548B
7795 2A TC4053BP
7795 2B TC4053BP
7801 BC548B
7802 ESM2369
7800 BC548B
7501 BC548B
6100 1N4148
6080 1N4148
6783 1N4148
6092 1N4148
6091 1N4148
6090 1N4148
6B11 JFB I/O
10B11 JFB I/O
9B11 JFB I/O
PRS 06406
100 9011

1752	H8
1788	G16
1800	L14
1900	I26
2301	B23
2403	J27
2404	J7
2405	A5
2406	A3
2408	H3
2452	I7
2579	I16
2753	I8
2754	B23
2755	C8
2757	B17
2762	J11
2763	J11
2764	J12
2765	J12
2766	J12
2767	L13
2768	F12
2771	H16
2774	H24
2775	H24
2776	G24
2781	F13
2784	L30
2788	G16
2789	J9
2792	F13
2797	H16
2798	J10
2799	J10
2800	L14
2802	J16
2803	F9
2847	E25
2851	N19
2852	F24
2853	E25
2857	E27
2858	E26
2859	H30
2860	H30
2861	H31
2862	I24
2863	I25
2864	I25
2865	I25
2871	N17
2872	L16
2873	O20
2921	K25
3508	I24
3510	N21
3511	I24
3512	I24
3516	N11
3517	O11
3518	O10
3519	K2
3520	J4
3521	J2
3522	J3
3762	E9
3763	D9
3764	D10
3765	D10
3771	H16
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3778	H22
3779	G23
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3783	H21
3784	G23
3788	G16
3789	K29
3800	F11
3804	J10
3848	O22
3849	O22
3850	M21
3851	N20
3852	O21
3853	J27
3854	I26
3856	E26
3857	H29
3858	J18
3859	K28
3860	O20
3862	N20
3864	H30
3865	O19
3866	O20
3871	M18
3873	M16
3875	M15
3876	N23
3920	N28
3921	M16
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3925	I3
3926	H2
3927	F2
3928	F2
5600	J27
5700	A23
5750	K2
5770	L2
5800	J16
5801	H31
6080	M17
6090	O19
6091	N22
6092	N11
6100	M17
6101	G2
6783	N21
7501	N10
7750	D8
7751	B5
7752	B3
7753	G5
7760	A19
7770	A21
7780	F15
7790	F28
7795	L28
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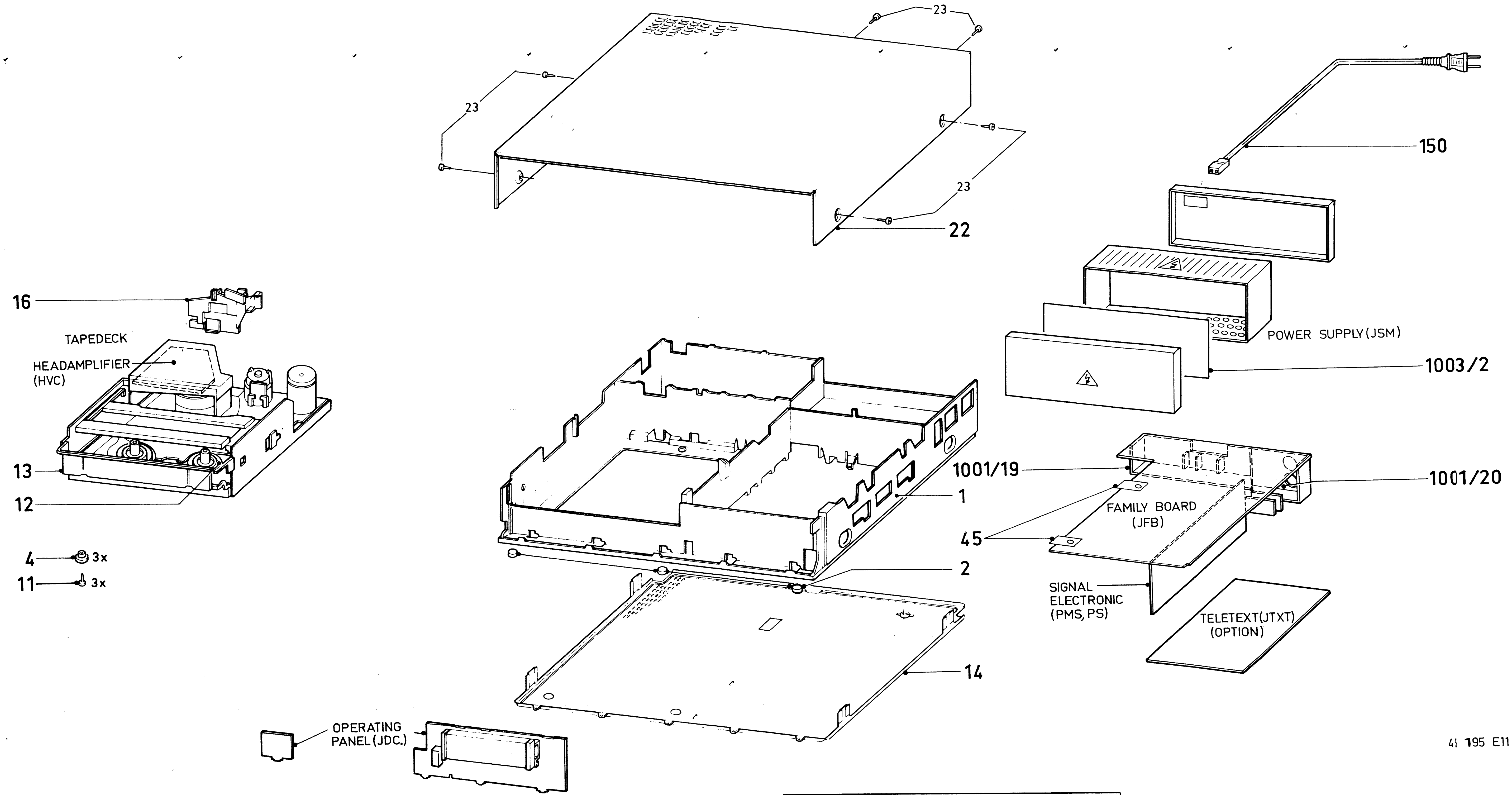
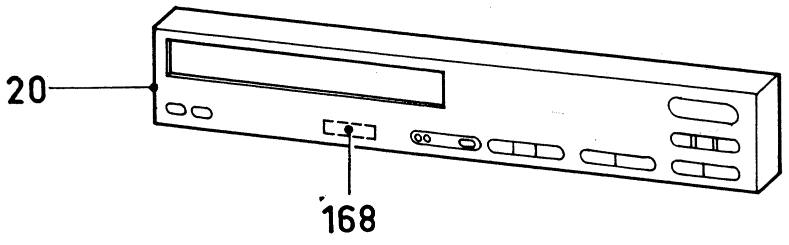
7811	H3
7812	H2
7813	G2

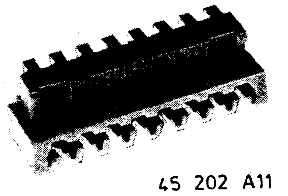

23
23
23
22
150
1003/2
POWER SUPPLY (JSM)
16
TAPEDECK
HEADAMPLIFIER
(HVC)
13
12
4
3x
11
3x
1
1001/19
1001/20
FAMILY BOARD
(JFB)
45
2
SIGNAL
ELECTRONIC
(PMS, PS)
TELETEXT(JTXT)
(OPTION)
14
OPERATING
PANEL (JDC.)

41 195 E11



Stecker
Connector
Steker
fiche
spina
enchufe

3p	4822 267 40655
4p	4822 267 40672
5p	4822 267 40656
6p	4822 267 40657
7p	4822 267 50644
8p	4822 267 50645
9p	4822 267 50768
12p	4822 267 50646
13p	4822 267 50771



45 202 A11

		CABINET PARTS	GEHÄUSETEILE	PIECES DE PRESENTATION
1	4822 464 50758	Frame	Rahmen	Boîtier
2	4822 462 41138	Foot	Fuss	Pied
4	4822 325 60321	Sleeve	Hülse	Anneau
11	4822 502 11693	Support	Bolzen	Support
12	4822 492 41342	Spring	Feder	Ressort
13	4822 443 63006	Lift flap (for VR201)	Liftklappe (für VR201)	Clapet (pour VR201)
	4822 443 63011	Lift flap (for VR202, not /05)	Liftklappe (für VR202, nicht /05)	Clapet (pour VR202, pas /05)
	4822 443 63031	Lift flap (for VR203, not /05)	Liftklappe (für VR203, nicht /05)	Clapet (pour VR203, pas /05)
	4822 443 63036	Lift flap (for VR202/05, VR203/05)	Liftklappe (für VR202/05, VR203/05)	Clapet (pour VR202/05, VR203/05)
	4822 443 63025	Lift flap (for VR302)	Liftklappe (für VR302)	Clapet (pour VR302)
	4822 443 63029	Lift flap (for VR303)	Liftklappe (für VR303)	Clapet (pour VR303)
14	4822 443 51171	Bottom	Boden	Fond
16	4822 403 53176	Cable canal	Kabelrinne	Gouttière de cable
20	4822 443 40909	Control panel (for VR201,VR202,VR203)	Bedienungspaneel (für VR201,VR202,VR203)	Panneau de commande (pour VR201, VR202, VR203)
	4822 443 40914	Control panel (for VR302,VR303)	Bedienungspaneel (für VR302,VR303)	Panneau de commande (pour VR302, VR303)
22	4822 443 63007	Cover	Deckel	Couvercle
23	4822 502 30527	Screw c-torx M3x6	Schraube c-torx M3x6	Vis c-torx M3x6
45	4822 417 11012	Hinge	Scharnier	Charnière
150	4822 321 23453	Mains cord	Netzkabel	Cordon secteur
	4822 321 10635	Mains cord (only for /05)	Netzkabel (nur für /05)	Cordon secteur (seul. pour /05)
168	4822 459 10886	Wordmark	Wortmarke	Marque
1001/19	4822 466 92368	I/O block	I/O block	I/O bloc
1001/20	4822 403 53807	I/O plate	I/O platte	I/O plaque
1003/2	4822 466 61689	Isolation plate	Isolierplatte	Plaque d'isolation
	4822 321 23415	Antenna cable	Antennenkabel	Cable d'antenne

		ONDERDELEN APPARAAT	COMPONENTES MUEBLA	PARTI DEL MOBILE
1	4822 464 50758	Frame	Bastidor	Carcassa
2	4822 462 41138	Voet	Pie	Piede
4	4822 325 60321	Huls	Vaina	Boccola
11	4822 502 11693	Steun	Perno	Perno
12	4822 492 41342	Veer	Muelle	Molla
13	4822 443 63006	Liftklep (voor VR201)	Ventana (para VR201)	Valvola (per VR201)
	4822 443 63011	Liftklep (voor VR202, niet /05)	Ventana (para VR202, no /05)	Valvola (per VR202, no /05)
	4822 443 63031	Liftklep (voor VR203, niet /05)	Ventana (para VR203, no /05)	Valvola (per VR203, no /05)
	4822 443 63036	Liftklep (voor VR202/05, VR203/05)	Ventana (para VR202/05, VR203/05)	Valvola (per VR202/05, VR203/05)
	4822 443 63025	Liftklep (voor VR302)	Ventana (para VR302)	Valvola (per VR302)
	4822 443 63029	Liftklep (voor VR303)	Ventana (para VR303)	Valvola (per VR303)
14	4822 443 51171	Bodem	Fondo	Fondo
16	4822 403 53176	Kabelgoot	Reten de cables	Scanalatura di cavo
20	4822 443 40909	Bedienpaneel (voor VR201,VR202,VR203)	Panel de mandos (para VR201,VR202,VR203)	Pannello di comandi (per VR201,VR202,VR203)
	4822 443 40914	Bedienpaneel (voor VR302,VR303)	Panel de mandos (para VR302,VR303)	Pannello di comandi (per VR302,VR303)
22	4822 443 63007	Deksel	Tapa	Coperchio
23	4822 502 30527	Schroef c-torx M3x6	Tornillo c-torx M3x6	Vite c-torx M3x6
45	4822 417 11012	Scharnier	Bisagra	Cerniera
150	4822 321 23453	Netkabel	Cable de red	Cavo di rete
	4822 321 10635	Netkabel (alleen voor /05)	Cable de red (sólo para /05)	Cavo di rete (solo per /05)
168	4822 459 10886	Woordmerk	Marca de fabrica	Marchio di fabbrica
1001/19	4822 466 92368	I/O blok	Bloque I/O	Blocco I/O
1001/20	4822 403 53807	I/O plaat	Placa I/O	Piastra I/O
1003/2	4822 466 61689	Isolatieplaat	Placa aislante	Piastra isolante
	4822 321 23415	Antennekabel	Cable de antena	Cavo d'antenna

		CABINET PARTS	GEHÄUSETEILE	PIECES DE PRESENTATION
1	4822 464 50758	Frame	Rahmen	Boîtier
2	4822 462 41138	Foot	Fuss	Pied
4	4822 325 60321	Sleeve	Hülse	Anneau
11	4822 502 11693	Support	Bolzen	Support
12	4822 492 41342	Spring	Feder	Ressort
13	4822 443 63006	Lift flap (for VR201)	Liftklappe (für VR201)	Clapet (pour VR201)
	4822 443 63011	Lift flap (for VR202, not /05)	Liftklappe (für VR202, nicht /05)	Clapet (pour VR202, pas /05)
	4822 443 63031	Lift flap (for VR203, not /05)	Liftklappe (für VR203, nicht /05)	Clapet (pour VR203, pas /05)
	4822 443 63036	Lift flap (for VR202/05, VR203/05)	Liftklappe (für VR202/05, VR203/05)	Clapet (pour VR202/05, VR203/05)
	4822 443 63025	Lift flap (for VR302)	Liftklappe (für VR302)	Clapet (pour VR302)
	4822 443 63029	Lift flap (for VR303)	Liftklappe (für VR303)	Clapet (pour VR303)
14	4822 443 51171	Bottom	Boden	Fond
16	4822 403 53176	Cable canal	Kabelrinne	Gouttière de cable
20	4822 443 40909	Control panel (for VR201,VR202,VR203)	Bedienungspaneel (für VR201,VR202,VR203)	Panneau de commande (pour VR201, VR202, VR203)
	4822 443 40914	Control panel (for VR302,VR303)	Bedienungspaneel (für VR302,VR303)	Panneau de commande (pour VR302, VR303)
22	4822 443 63007	Cover	Deckel	Couvercle
23	4822 502 30527	Screw c-torx M3x6	Schraube c-torx M3x6	Vis c-torx M3x6
45	4822 417 11012	Hinge	Scharnier	Charnière
150	4822 321 23453	Mains cord	Netzkabel	Cordon secteur
	4822 321 10635	Mains cord (only for /05)	Netzkabel (nur für /05)	Cordon secteur (seul. pour /05)
168	4822 459 10886	Wordmark	Wortmarke	Marque
1001/19	4822 466 92368	I/O block	I/O block	I/O bloc
1001/20	4822 403 53807	I/O plate	I/O platte	I/O plaque
1003/2	4822 466 61689	Isolation plate	Isolierplatte	Plaque d'isolation
	4822 321 23415	Antenna cable	Antennenkabel	Cable d'antenne

		ONDERDELEN APPARAAT	COMPONENTES MUEBLA	PARTI DEL MOBILE
1	4822 464 50758	Frame	Bastidor	Carcassa
2	4822 462 41138	Voet	Pie	Piede
4	4822 325 60321	Huls	Vaina	Boccola
11	4822 502 11693	Steun	Perno	Perno
12	4822 492 41342	Veer	Muelle	Molla
13	4822 443 63006	Liftklep (voor VR201)	Ventana (para VR201)	Valvola (per VR201)
	4822 443 63011	Liftklep (voor VR202, niet /05)	Ventana (para VR202, no /05)	Valvola (per VR202, no /05)
	4822 443 63031	Liftklep (voor VR203, niet /05)	Ventana (para VR203, no /05)	Valvola (per VR203, no /05)
	4822 443 63036	Liftklep (voor VR202/05, VR203/05)	Ventana (para VR202/05, VR203/05)	Valvola (per VR202/05, VR203/05)
	4822 443 63025	Liftklep (voor VR302)	Ventana (para VR302)	Valvola (per VR302)
	4822 443 63029	Liftklep (voor VR303)	Ventana (para VR303)	Valvola (per VR303)
14	4822 443 51171	Bodem	Fondo	Fondo
16	4822 403 53176	Kabelgoot	Reten de cables	Scanalatura di cavo
20	4822 443 40909	Bedienpaneel (voor VR201,VR202,VR203)	Panel de mandos (para VR201,VR202,VR203)	Pannello di comandi (per VR201,VR202,VR203)
	4822 443 40914	Bedienpaneel (voor VR302,VR303)	Panel de mandos (para VR302,VR303)	Pannello di comandi (per VR302,VR303)
22	4822 443 63007	Deksel	Tapa	Coperchio
23	4822 502 30527	Schroef c-torx M3x6	Tornillo c-torx M3x6	Vite c-torx M3x6
45	4822 417 11012	Scharnier	Bisagra	Cerniera
150	4822 321 23453	Netkabel	Cable de red	Cavo di rete
	4822 321 10635	Netkabel (alleen voor /05)	Cable de red (sólo para /05)	Cavo di rete (solo per /05)
168	4822 459 10886	Woordmerk	Marca de fabrica	Marchio di fabbrica
1001/19	4822 466 92368	I/O blok	Bloque I/O	Blocco I/O
1001/20	4822 403 53807	I/O plaat	Placa I/O	Piastra I/O
1003/2	4822 466 61689	Isolatieplaat	Placa aislante	Piastra isolante
	4822 321 23415	Antennekabel	Cable de antena	Cavo d'antenna

Power supply JSM

MISCELLANEOUS

5322 390 20011	Silicone grease
4822 265 30739	Connector 6 pin
4822 265 40721	Connector 10 pin
4822 492 63997	Spring
4822 502 11839	Screw
4822 265 10219	Mains connector

FUSES

1101	4822 253 30232	Fuse 2,0A 250V

CAPACITORS

2101	5322 121 44372	220 nF	250 V
2103	4822 122 33441	1 nF	125 V
2105	4822 122 33076	470 pF	400 V
2107	4822 122 33076	470 pF	400 V
2108	5322 122 34151	100 nF	250 V
2112	4822 124 41556	100 µF	385 V
2113	4822 122 33441	1 nF	125 V
2121	4822 122 33849	150 pF	50 V
2124	4822 122 33849	150 pF	50 V
2127	4822 121 51139	1 µF	63 V
2135	4822 122 33075	680 pF	1000 V
2136	4822 121 42198	68 nF	63 V
2202	4822 121 51248	27 nF	63 V
2203	4822 121 51248	27 nF	63 V
2204	5322 121 42386	100 nF	63 V
2207	4822 124 40739	680 µF	25 V
2208	4822 124 40739	680 µF	25 V
2210	4822 124 40739	680 µF	25 V
2217	4822 121 51295	47 µF	63 V
2236	4822 121 51297	39 nF	63 V
2238	4822 121 51248	27 nF	63 V
2244	4822 121 41776	330 nF	63 V
2254	4822 121 42686	15 nF	63 V
2260	4822 124 40199	680 µF	16 V
2261	4822 124 40199	680 µF	16 V

RESISTORS

3102	4822 110 42203	3.9 MΩ
3103	4822 110 42203	3.9 MΩ
3104	4822 116 52224	470 Ω
3105	4822 111 10134	470 Ω
3106	4822 110 42196	2.2 MΩ
3107	4822 111 10134	470 Ω
3109	4822 053 30338	3.3 Ω
3112	4822 111 30663	680 kΩ
3120	4822 116 52264	27 kΩ
3121	4822 116 80175	4.7 kΩ
3123	4822 116 52238	12 kΩ
3124	5322 116 60203	330 kΩ
3125	4822 116 52224	470 Ω
3126	4822 116 52175	100 Ω
3127	4822 116 52175	100 Ω
3131	5322 116 80867	22 Ω
3134	4822 116 52219	330 Ω
3140	4822 116 52186	22 Ω
3141	4822 116 52186	22 Ω
3201	4822 116 52176	10 Ω
3217	4822 116 52289	5.6 kΩ
3230	4822 116 80175	4.7 kΩ
3236	4822 116 52197	56 Ω
3238	4822 116 52207	1.2 kΩ
3240	4822 116 52804	560 Ω
3242	4822 050 11332	1.33 kΩ
3243	4822 116 52175	100 Ω
3244	4822 116 52224	470 Ω
3246	4822 116 52211	150 Ω
3247	4822 116 52217	270 Ω
3250	4822 116 52204	1 kΩ
3251	4822 116 52204	1 kΩ
3254	4822 116 52249	22 kΩ
3255	4822 116 52758	1 kΩ
3257	4822 050 12433	24.3 kΩ
3258	4822 050 11332	1.33 kΩ

COILS

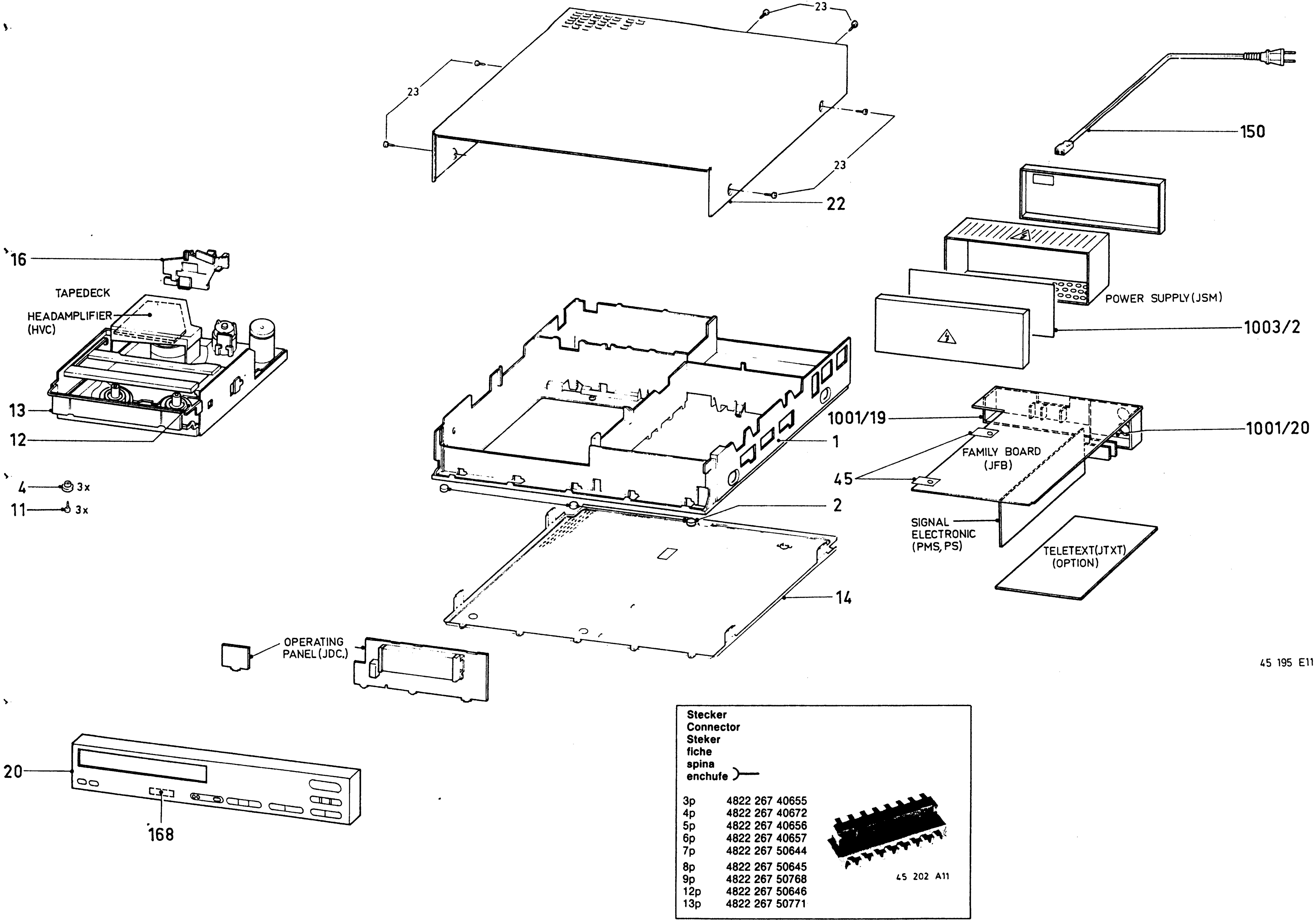
5103	4822 157 53348
5105	4822 157 53352
5107	4822 157 53352
5114	4822 146 30881
5131	4822 157 53549
5134	4822 157 62222
5204	4822 157 53252
5207	4822 157 53006
5208	4822 157 53006
5215	4822 157 53006
5230	4822 157 53352
5263	4822 157 53528
5264	4822 157 53528

DIODES

6110	4822 130 80858	1N5062GP (GI)
6111	4822 130 80858	1N5062GP (GI)
6112	4822 130 80858	1N5062GP (GI)
6113	4822 130 80858	1N5062GP (GI)
6120	4822 130 80858	1N5062GP (GI)
6123	4822 130 30621	1N4148
6124	4822 130 30621	1N4148
6127	4822 130 31456	BZV85-C5V1
6129	4822 130 30621	1N4148
6136	4822 130 34193	BAX14
6137	4822 130 30621	1N4148
6138	4822 130 30621	1N4148
6207	4822 130 81516	MUR410 (MTLA)
6208	4822 130 81516	MUR410 (MTLA)
6215	4822 130 81272	MUR115 (MTLA)
6230	4822 130 81272	MUR115 (MTLA)
6235	4822 130 30621	1N4148
6236	4822 130 30621	1N4148
6237	4822 130 30621	1N4148
6241	4822 130 61219	BZX79-10V
6251	4822 130 30621	1N4148
6252	4822 130 30621	1N4148
6253	4822 130 34441	BZX79-B22
6260	4822 130 32715	SB340

TRANSISTORS

7121	4822 130 44196	BC548C
7124	4822 130 82034	CNX83A
7125	5322 130 60068	BC558C
7126	5322 130 44349	BC635
7135	4822 130 42679	BUT11AF
7243	4822 130 44568	BC557B
7246	4822 130 40959	BC547B
7253	4822 209 81397	TL431CLP (MOTA)


23
23
23
23
22
150
POWER SUPPLY (JSM)
1003/2
1001/19
1001/20
1
FAMILY BOARD
(JFB)
45
2
SIGNAL
ELECTRONIC
(PMS, PS)
TELETEXT (JTXT)
(OPTION)
14
16
TAPEDECK
HEADAMPLIFIER
(HVC)
13
12
4
3x
11
3x
OPERATING
PANEL (JDC.)
20
168
45 195 E11
45 202 A11

Stecker
Connector
Steker
fiche
spina
enchufe

3p	4822 267 40655
4p	4822 267 40672
5p	4822 267 40656
6p	4822 267 40657
7p	4822 267 50644
8p	4822 267 50645
9p	4822 267 50768
12p	4822 267 50646
13p	4822 267 50771

Operating panel JDCB, JDCD

MISCELLANEOUS

	4822 276 11349	Keys
	4822 265 40474	Connector 4 pin
	4822 265 41037	Connector 12 pin
7103	4822 218 10216	IR-Receiver

CRYSTALS

1001	4822 242 72574	4.19 MHz
1002	4822 242 72892	32,768 kHZ

CAPACITORS

2003	4822 122 33847	10 pF	50 V
2004	4822 122 10462	15 pF	
2005	4822 125 50412	Trimmer 7,5pF-50pF	
2010	4822 122 10177	10 nF	25 V
2011	4822 124 21454	150 µF	16 V
2020	4822 124 41518	470 µF	16 V
2021	4822 121 51298	1,5 nF	
2022	4822 121 51298	1,5 nF	
2030	4822 122 10177	10 nF	25 V
2031	4822 122 10463	220 nF	63 V
2040	4822 122 33197	1 nF	50 V
2041	4822 122 33197	1 nF	50 V
2042	4822 122 33197	1 nF	50 V
2043	5322 121 42386	100 nF	63 V

RESISTORS

3001	4822 116 52175	100 Ω
3002	4822 116 52175	100 Ω
3006	4822 116 52175	100 Ω
3007	4822 116 52175	100 Ω
3011	4822 116 52283	4.7 kΩ
3012	4822 116 52283	4.7 kΩ
3013	4822 116 52283	4.7 kΩ
3014	4822 116 52283	4.7 kΩ
3015	4822 116 52283	4.7 kΩ
3016	4822 116 52283	4.7 kΩ
3017	4822 116 52283	4.7 kΩ
3018	4822 116 52233	10 kΩ
3020	4822 116 52182	15 Ω
3021	4822 116 52182	15 Ω
3022	4822 116 52848	200 kΩ
3023	4822 116 52848	200 kΩ
3026	4822 116 52759	10 kΩ
3027	4822 116 52759	10 kΩ
3028	4822 116 52233	10 kΩ
3029	4822 116 52233	10 kΩ
3030	4822 116 52257	22 kΩ
3031	4822 116 52283	4.7 kΩ
3032	4822 116 52204	1 kΩ
3033	4822 116 52256	2.2 kΩ
3034	4822 116 52283	4.7 kΩ
3035	4822 116 52283	4.7 kΩ
3036	4822 116 52233	10 kΩ
3037	4822 116 52257	22 kΩ
3040	4822 116 52249	1.8 kΩ
3041	4822 116 52249	1.8 kΩ
3042	4822 116 52249	1.8 kΩ
3043	4822 116 52249	1.8 kΩ
3050	4822 116 52283	4.7 kΩ
3051	4822 116 52175	100 Ω
3052	4822 116 52175	100 Ω
3061	4822 116 52233	10 kΩ

COILS

5000	4822 157 52286	

DIODES

6001	4822 130 30621	1N4148 (NSC)
6002	4822 130 30621	1N4148 (NSC)
6003	4822 130 30621	1N4148 (NSC)
6004	4822 130 30621	1N4148 (NSC)
6005	4822 130 30621	1N4148 (NSC)
6006	4822 130 30621	1N4148 (NSC)
6020	4822 130 81268	SD101A
6031	4822 130 30621	1N4148 (NSC)
6032	4822 130 30621	1N4148 (NSC)
6050	4822 130 34233	BZX55-C5V1 (TEG)

TRANSISTORS

7030	5322 130 60068	TBC558C
7031	4822 130 40937	TBC548B

IC's

7101	4822 209 62453	TMP47C1670N JSDC1-3U
7102	4822 130 90839	12-MT-48GK
7120	4822 209 80797	LM393N

Signal panel PMS/PS

FUSES

1002	4822 071 52501	250mA

CRYSTALS

1101	4822 242 72413	4,433 619 MHz

CAPACITORS

2101	4822 122 33267	820 pF	50 V
2102	4822 122 32597	6,8 nF	63 V
2104	4822 122 33184	1 nF	
2105	4822 122 33184	1 nF	
2106	4822 122 32597	6,8 nF	63 V
2107	4822 122 31965	220 pF	63 V
2108	4822 122 31972	39 pF	50 V
2109	4822 122 31972	39 pF	50 V
2110	4822 122 31765	100 pF	50 V
2111	4822 124 22657	100 µF	10 V
2112	4822 122 32442	10 nF	50 V
2113	4822 122 32566	3,9 nF	63 V
2114	4822 122 31797	22 nF	63 V
2115	4822 121 42408	220 nF	63 V
2116	4822 121 42408	220 nF	63 V
2117	4822 122 31765	100 pF	50 V
2119	4822 124 22429	1 µF	50 V
2120	4822 122 32566	3,9 nF	63 V
2121	4822 124 22429	1 µF	50 V
2122	4822 124 22425	2,2 µF	50 V
2123	4822 122 32597	6,8 nF	63 V
2124	4822 122 33184	1 nF	
2125	4822 122 33184	1 nF	
2126	4822 124 22656	22 µF	10 V
2127	4822 122 32893	100 nF	50 V
2128	4822 124 22429	1 µF	50 V
2129	4822 124 22429	1 µF	50 V
2130	4822 122 32442	10 nF	50 V
2131	4822 122 31825	27 pF	50 V
2132	4822 122 31765	100 pF	50 V
2133	4822 122 32442	10 nF	50 V
2134	4822 122 31825	27 pF	50 V
2135	4822 122 33184	1 nF	
2137	4822 122 31965	220 pF	63 V
2138	4822 121 42915	330 pF	
2139	4822 122 33184	1 nF	
2160	4822 122 31765	100 pF	50 V
2201	4822 122 33184	1 nF	(only for /02 /06)
2202	4822 122 33184	1 nF	(only for /02 /06)
2204	4822 124 22656	22 µF	10 V (only for /02 /06)
2205	4822 124 41704	2,2 µF	50 V (only for /02 /06)
2206	4822 124 41704	2,2 µF	50 V (only for /02 /06)
2207	4822 124 41588	4,7 µF	25 V (only for /02 /06)
2208	4822 124 22657	100 µF	10 V (only for /02 /06)
2301	4822 124 41588	4,7 µF	25 V
2302	4822 124 22656	22 µF	10 V
2303	4822 122 31769	18 pF	50 V
2304	4822 122 31774	56 pF	50 V
2305	4822 122 31769	18 pF	50 V
2306	4822 124 41588	4,7 µF	25 V
2307	4822 122 32442	10 nF	50 V
2308	5322 121 42661	330 nF	63 V
2310	4822 124 22656	22 µF	10 V
2311	4822 121 51387	10 nF	16 V
2315	4822 124 22656	22 µF	10 V
2316	4822 124 41588	4,7 µF	25 V
2317	4822 124 41588	4,7 µF	25 V
2318	5322 122 31641	47 nF	50 V
2319	4822 122 31965	220 pF	63 V
2320	4822 122 32976	470 pF	
2321	4822 124 22656	22 µF	10 V
2322	4822 122 32597	6,8 nF	63 V
2323	4822 122 32082	4,7 pF	50 V
2324	4822 122 31765	100 pF	50 V
2325	4822 122 31765	100 pF	50 V
2326	4822 122 32442	10 nF	50 V
2327	4822 122 32442	10 nF	50 V
2328	4822 124 22656	22 µF	10 V
2329	4822 122 31797	22 nF	63 V
2330	4822 122 31766	120 pF	50 V
2331	4822 122 31772	47 pF	50 V
2332	4822 122 32597	6,8 nF	63 V
2333	4822 122 31961	68 pF	63 V
2335	4822 122 32893	100 nF	50 V
2336	4822 124 22429	1 µF	50 V
2337	4822 122 31765	100 pF	50 V
2338	5322 122 32072	33 pF	
2339	4822 122 31772	47 pF	50 V
2341	4822 122 30045	27 pF	100 V
2342	4822 122 31773	560 pF	50 V
2343	4822 122 31972	39 pF	50 V
2344	4822 122 32597	6,8 nF	63 V
2345	4822 124 41588	4,7 µF	25 V
2346	4822 122 31797	22 nF	63 V
2348	4822 122 32893	100 nF	50 V
2349	4822 124 22657	100 µF	10 V
2350	4822 124 22657	100 µF	10 V
2351	4822 122 32893	100 nF	50 V
2352	4822 122 31972	39 pF	50 V
2354	4822 121 51387	10 nF	16 V
2355	4822 122 31772	47 pF	50 V
2357	4822 122 31965	220 pF	63 V
2359	4822 122 33267	820 pF	50 V
2360	4822 122 31766	120 pF	50 V
2361	4822 122 31774	56 pF	50 V
2362	4822 124 41588	4,7 µF	25 V
2363	4822 122 31769	18 pF	50 V
2364	4822 122 31769	18 pF	50 V
2365	4822 122 32597	6,8 nF	63 V
2366	4822 122 32442	10 nF	50 V
2368	4822 122 31839	82 pF	50 V
2369	4822 122 31768	180 pF	50 V
2370	4822 121 42915	330 pF	
2371	4822 122 31769	18 pF	50 V
2372	4822 122 31972	39 pF	50 V
2373	4822 122 32442	10 nF	50 V
2374	4822 124 22429	1 µF	50 V
2401	4822 122 32566	3,9 nF	63 V
2402	4822 122 32442	10 nF	50 V
2403	4822 122 31797	22 nF	63 V
2404	4822 122 31772	47 pF	50 V
2405	4822 122 33184	1 nF	
2406	4822 124 22657	100 µF	10 V

RESISTORS

3101	4822 051 10102	1 kΩ
3102	4822 051 10152	1.5 kΩ
3103	4822 111 90157	3.3 kΩ
3104	4822 111 90154	270 Ω
3105	4822 051 10152	1.5 kΩ
3106	4822 051 10152	1.5 kΩ
3107	4822 051 10102	1 kΩ
3108	4822 051 10102	1 kΩ

Signal panel PMS/PS

3109	5322 111 90113	560 Ω	
3110	4822 111 90171	820 Ω	
3111	5322 111 90109	470 Ω	
3112	5322 111 90113	560 Ω	
3114	4822 100 11414	4.7 kΩ	
3115	4822 116 80174	2.2 kΩ	
3116	4822 111 90171	820 Ω	
3117	4822 051 10102	1 kΩ	
3118	4822 111 90543	47 kΩ	
3119	4822 116 52284	47 kΩ	
3120	5322 111 90111	4.7 kΩ	
3121	4822 111 90251	22 kΩ	
3122	5322 111 90118	8.2 kΩ	
3123	4822 111 90302	270 kΩ	
3124	4822 111 90302	270 kΩ	
3125	5322 111 90267	33 kΩ	
3126	4822 101 11035	100 kΩ	
3127	5322 111 90101	1.8 kΩ	
3128	5322 111 90101	1.8 kΩ	
3129	4822 111 90251	22 kΩ	
3130	4822 051 10152	1.5 kΩ	
3131	4822 111 90543	47 kΩ	
3132	4822 111 90251	22 kΩ	
3133	4822 111 90157	3.3 kΩ	
3134	5322 111 90111	4.7 kΩ	
3135	4822 111 90544	6.8 kΩ	
3136	4822 111 91522	2.2 kΩ	
3137	4822 111 90171	820 Ω	
3138	4822 111 90178	220 Ω	
3139	4822 051 10152	1.5 kΩ	
3140	4822 111 90543	47 kΩ	
3141	4822 116 52284	47 kΩ	
3142	4822 111 90543	47 kΩ	
3143	4822 111 90249	10 kΩ	
3144	4822 116 80173	10 kΩ	
3145	5322 111 90118	8.2 kΩ	
3147	5322 111 90098	150 Ω	
3148	4822 051 10102	1 kΩ	
3152	4822 111 90543	47 kΩ	
3153	4822 101 11034	22 kΩ	
3201	5322 111 90118	8.2 kΩ	(only for /02 /06)
3202	4822 111 90249	10 kΩ	(only for /02 /06)
3203	4822 051 10105	1 MΩ	(only for /02 /06)
3204	4822 051 10105	1 MΩ	(only for /02 /06)
3205	4822 111 90171	820 Ω	(only for /02 /06)
3206	4822 111 90251	22 kΩ	(only for /02 /06)
3301	4822 100 11365	1 kΩ Trimmer	
3302	5322 111 90109	470 Ω	
3303	4822 051 10152	1.5 kΩ	
3304	5322 111 90109	470 Ω	
3305	4822 051 10102	1 kΩ	
3306	4822 051 10102	1 kΩ	
3307	4822 051 10759	75 Ω	
3308	4822 051 10759	75 Ω	
3311	4822 051 10105	1 MΩ	
3312	4822 051 10102	1 kΩ	
3313	4822 051 10102	1 kΩ	
3314	5322 111 90111	4.7 kΩ	
3315	5322 111 90111	4.7 kΩ	
3316	4822 101 11034	22 kΩ	
3317	4822 111 90373	9.1 kΩ	
3318	4822 111 90569	2.7 kΩ	
3319	4822 111 90569	2.7 kΩ	
3320	4822 100 11157	2.2 kΩ	
3321	4822 050 26805	6.8 MΩ	
3322	5322 111 90118	8.2 kΩ	
3323	4822 100 11157	2.2 kΩ	
3324	4822 111 90162	680 Ω	
3325	4822 101 11033	470 Ω	
3326	4822 111 90162	680 Ω	
3327	4822 101 11034	22 kΩ	
3328	5322 111 90113	560 Ω	
3329	5322 111 90101	1.8 kΩ	
3330	5322 111 90113	560 Ω	
3331	4822 111 90162	680 Ω	
3332	5322 111 90113	560 Ω	
3333	5322 111 90113	560 Ω	
3334	4822 111 91522	2.2 kΩ	
3335	4822 116 52175	100 Ω	
3336	4822 116 52243	1.5 kΩ	
3337	4822 051 10102	1 kΩ	
3338	5322 111 90109	470 Ω	
3339	4822 051 10102	1 kΩ	
3340	5322 111 90106	330 Ω	
3341	4822 101 10855	22 kΩ	
3342	4822 111 90302	270 kΩ	
3343	4822 111 90543	47 kΩ	
3345	4822 111 91522	2.2 kΩ	
3349	4822 051 10152	1.5 kΩ	
3350	4822 111 90154	270 Ω	
3351	4822 051 10152	1.5 kΩ	
3352	4822 111 91522	2.2 kΩ	
3353	4822 111 90569	2.7 kΩ	
3354	5322 111 90101	1.8 kΩ	
3355	5322 111 90101	1.8 kΩ	
3356	4822 101 11034	22 kΩ	
3364	4822 111 90168	430 kΩ	
3365	5322 111 90111	4.7 kΩ	
3366	4822 116 52224	470 Ω	
3368	4822 051 10102	1 kΩ	
3369	5322 111 90098	150 Ω	
3370	4822 051 10152	1.5 kΩ	
3401	4822 116 80173	10 kΩ	
3402	5322 111 90111	4.7 kΩ	
3403	4822 111 91522	2.2 kΩ	
3404	4822 111 90544	6.8 kΩ	
3405	4822 116 52269	3.3 kΩ	
3406	4822 111 90249	10 kΩ	
3407	4822 111 90543	47 kΩ	
3408	4822 051 10101	100 Ω	
3409	5322 111 90111	4.7 kΩ	
3410	4822 051 10101	100 Ω	
3411	4822 111 90249	10 kΩ	
3412	4822 116 52249	1.8 kΩ	
3413	5322 111 90111	4.7 kΩ	
3414	4822 051 10102	1 kΩ	
3415	4822 111 90157	3.3 kΩ	
3416	5322 111 90111	4.7 kΩ	
3901	4822 051 10008	Jumper	
3902	4822 051 10008	Jumper	
3903	4822 051 10008	Jumper	
3905	4822 051 10008	Jumper	
3906	4822 051 10008	Jumper	
3907	4822 051 10008	Jumper (only for /02 /06)	
3909	4822 051 10008	Jumper	

COILS

5101	4822 157 60384
5102	4822 320 40168
5103	4822 157 53251
5104	4822 157 52286
5105	4822 157 60385
5106	4822 157 53251
5107	4822 157 53252

Signal panel PMS/PS

5108	4822 157 53265
5109	4822 157 53253
5110	4822 157 60386
5301	4822 157 53252
5302	4822 157 53265
5303	4822 157 53265
5306	4822 157 60383
5307	4822 157 52286
5309	4822 157 53253
5310	4822 157 52842
5311	4822 157 53251
5312	4822 157 52842
5313	4822 157 53252
5314	4822 156 21454
5315	4822 157 53265
5316	4822 157 53253
5317	4822 157 53265
5318	4822 157 52842
5319	4822 157 53265
5320	4822 157 52842
5401	4822 157 52842
5402	4822 157 52286

DIODES

6101	4822 130 31983	BAT85
6102	4822 130 30621	1N4148 (NSC)
6301	4822 130 33668	BZX55-B9V1 (TEG)

TRANSISTORS

7101	5322 130 41982	BC848B
7102	4822 130 42353	BSF19-F2
7103	5322 130 41982	BC848B
7104	4822 130 61207	BC848
7105	5322 130 41982	BC848B
7106	4822 130 61207	BC848
7107	5322 130 42012	BC858A
7108	4822 130 61207	BC848
7109	5322 130 41982	BC848B
7301	4822 130 61207	BC848
7302	4822 130 61207	BC848
7303	5322 130 42012	BC858A
7306	4822 130 60383	BF824
7307	4822 130 42353	BSF19-F2
7312	5322 130 41983	BC858B
7313	4822 130 60146	DTC144EK
7314	5322 130 41983	BC858B
7401	5322 130 41982	BC848B
7402	5322 130 42012	BC858A
7403	5322 130 41983	BC858B
7404	5322 130 41983	BC858B
7405	5322 130 41983	BC858B
7406	4822 130 61207	BC848
7407	4822 130 61207	BC848
7408	5322 130 41982	BC848B

IC's

7151	4822 209 60091	TA8644N
7251	4822 209 60376	LA7311 (only for /02 /06)
7351	4822 209 73579	AN3236K
7352	4822 209 73578	MSM6965-3RS
7353	4822 209 60822	AN3319S

Head amplifier HVC

CAPACITORS

2001	4822 122 31947	100 nF	
2002	4822 122 31947	100 nF	
2003	4822 122 32893	100 nF	(only for perfect still)
2005	4822 122 31947	100 nF	
2006	4822 122 31947	100 nF	
2007	4822 122 31767	150 pF	(only for perfect still)
2008	4822 122 31767	150 pF	
2009	4822 122 32976	470 pF	
2010	4822 122 31765	100 pF	50 V
2011	4822 122 31759	22 nF	
2023	4822 124 41375	22 µF	
2024	4822 124 20698	22 µF	25 V
2025	4822 122 31759	22 nF	

RESISTORS

3001	5322 116 80449	680 Ω	(not for perfect still)
3002	4822 111 90544	6.8 kΩ	(only for perfect still)
3004	4822 111 90544	6.8 kΩ	
3005	4822 111 90338	11Ω	
3006	5322 111 90092	1 kΩ	
3007	5322 116 81141	820 Ω	
3901	4822 111 90163	Jumper (not for perfect still)	
3902	4822 111 90163	Jumper (only for perfect still)	

COILS

5001	4822 157 52265
5002	4822 157 52265

DIODES

6001	4822 130 30621	1N4148 (NSC)
6002	4822 130 30621	1N4148 (NSC)

IC's

7050	4822 209 73594	TEA5701

VPS panel VPS

CAPACITORS

2001	4822 124 20678	47 µF	10 V
2002	4822 122 33077	100 nF	25 V.
2003	5322 121 42386	100 nF	63 V
2004	4822 122 33192	27 pF	50 V
2005	4822 122 10462	15 pF	
2006	4822 121 41847	22 nF	63 V

RESISTORS

3001	4822 116 52761	100 kΩ
3002	4822 116 80832	820 kΩ
3003	4822 116 52175	100 Ω
3004	4822 116 52289	5,6 kΩ
3005	4822 116 52235	1 MΩ
3006	4822 116 52266	3 kΩ
3007	4822 116 52289	5.6 kΩ
3008	4822 116 52235	1 MΩ

COILS

5001	4822 157 53005

IC's

7001	4822 209 73306	SDA5642

Family board JFB

CONNECTORS

3p	4822 267 40696	
5p	4822 267 40697	
7p	4822 267 50621	
8p	4822 265 40475	
9p	4822 267 50721	
10p	4822 267 50722	
12p	4822 267 50651	
13p	4822 267 50723	
	4822 267 50661	SCART

MISCELLANEOUS

	4822 255 40128	Clip
1001	4822 071 58009	80 mA
1002	4822 071 58001	800 mA
1004	4822 242 72913	Oscillator 12 MHz
1310	4822 210 10392	Tuner UV916E
	4822 210 10393	Tuner U944 (for /05)
1350	4822 242 72095	SAW FILTER TSF5316 (only for /01 /02)
	4822 242 72576	SAW FILTER TSF5309 (only for /05 /07)
	4822 242 72197	SAW FILTER OFWK2950 (only for /59)
1351	4822 242 72914	CER FILTER 5,5 MHz (only for /01 /02)
	4822 242 72577	CER FILTER 6,0 MHZ (only for /05 /07)
1352	4822 242 72086	CER FILTER 5,5 MHz (only for /01 /02)
	4822 242 72578	CER FILTER 6,0 MHz (only for /05 /07)
1354	4822 242 70321	CER FILTER 6,5 MHz (only for /59)
1600	4822 242 72965	Oscillator 17,734476 MHZ (only for OSD)
1901	4822 214 32981	MODULATOR PAL B/G (only for /01 /02)
	4822 214 32674	MODULATOR PAL I MDLK (only for /05 /07)
1902	4822 157 60192	COIL (only for /01 /02)
1988	4822 138 10317	Battery V60R NICD

CAPACITORS

2001	4822 124 41506	47 µF	16 V
2002	5322 121 42386	100 nF	63 V
2003	4822 124 41506	47 µF	16 V
2004	4822 124 22429	1 µF	50 V
2005	5322 122 32334	220 pF	100 V
2006	4822 121 43079	4,7 nF	100 V
2007	4822 124 20722	1 µF	63 V
2008	4822 121 42472	10 nF	50 V
2009	4822 121 41856	22 nF	100 V
2010	4822 122 10463	220 nF	63 V
2011	4822 121 42472	10 nF	50 V
2012	4822 124 22429	1 µF	50 V
2014	4822 124 42006	1 µF	50 V
2015	4822 124 42006	1 µF	50 V
2016	4822 124 42006	1 µF	50 V
2017	4822 124 41588	4,7 µF	25 V
2039	5322 121 42386	100 nF	63 V
2040	4822 122 30027	1 nF	100 V
2041	4822 122 31316	100 pF	100 V
2043	5322 121 42386	100 nF	63 V
2044	5322 121 42491	47 nF	100 V
2045	5322 121 42386	100 nF	63 V
2046	4822 122 31316	100 pF	100 V
2047	4822 124 41506	47 µF	16 V
2050	4822 124 41506	47 µF	16 V
2051	4822 124 41506	47 µF	16 V
2052	4822 122 31316	100 pF	100 V
2053	4822 121 43079	4,7 nF	100 V
2055	4822 122 30027	1 nF	100 V
2056	4822 122 30027	1 nF	100 V
2070	5322 121 42386	100 nF	63 V
2071	4822 124 22425	2,2 µF	50 V
2072	4822 121 42472	10 nF	50 V
2101	4822 121 51304	10 nF	50 V
2102	4822 122 31316	100 pF	100 V
2120	4822 122 33197	1 nF	50 V
2121	5322 122 32143	22 pF	100 V
2122	5322 122 32143	22 pF	100 V
2123	5322 121 42386	100 nF	63 V
2140	5322 121 42386	100 nF	63 V
2141	5322 122 32336	560 pF	100 V
2142	4822 124 41506	47 µF	16 V
2143	4822 121 42472	10 nF	50 V
2180	4822 124 22451	22 µF	35 V (not for OSD)
2181	4822 124 41709	22 µF	6,3 V (not for OSD)
2182	4822 124 22656	22 µF	10 V (not for OSD)
2183	4822 124 22656	22 µF	10 V (not for OSD)
2201	4822 124 41588	4,7 µF	25 V
2202	4822 122 30027	1 nF	100 V
2203	4822 121 42472	10 nF	50 V
2205	4822 124 41506	47 µF	16 V
2206	4822 124 41588	4,7 µF	25 V
2207	4822 122 30027	1 nF	100 V
2208	4822 124 41506	47 µF	16 V
2209	4822 122 10463	220 nF	63 V
2210	4822 122 31316	100 pF	100 V
2211	4822 122 31316	100 pF	100 V
2212	5322 122 32356	820 pF	100 V
2213	4822 122 10463	220 nF	63 V
2214	4822 122 30027	1 nF	100 V
2215	4822 124 41506	47 µF	16 V
2216	4822 124 41588	4,7 µF	25 V
2217	4822 121 51305	15 nF	50 V
2218	4822 124 41506	47 µF	16 V
2219	4822 124 41588	4,7 µF	25 V
2220	4822 124 41506	47 µF	16 V
2226	5322 122 32334	220 pF	100 V
2251	4822 124 22451	22 µF	35 V
2252	4822 121 51251	47 nF	50 V
2253	4822 122 30027	1 nF	100 V
2254	4822 121 43145	33 nF	50 V
2255	5322 122 32335	330 pF	100 V
2301	4822 121 41856	22 nF	100 V
2311	4822 124 22451	22 µF	35 V
2312	4822 121 41856	22 nF	100 V
2313	4822 124 22451	22 µF	35 V
2314	4822 121 41856	22 nF	100 V
2317	4822 121 41856	22 nF	100 V
2318	4822 124 41521	10 µF	25 V
2351	4822 121 51304	10 nF	50 V
2352	4822 121 51096	1,5 nF	50 V
2356	4822 124 22429	1 µF	50 V
2357	4822 124 22429	1 µF	50 V
2358	4822 121 42472	10 nF	50 V
2359	4822 121 42472	10 nF	50 V
2360	4822 124 22426	100 µF	16 V
2361	4822 124 22426	100 µF	16 V
2362	4822 121 41856	22 nF	100 V

2363	4822 121 41856	22 nF	100 V
2364	4822 124 41521	10 µF	25 V
2365	4822 122 31353	330 pF	(only for /01 /02)
	4822 122 30107	270 pF	(only for /05 /07)
2366	4822 121 51522	22 nF	50 V
2367	4822 124 22426	100 µF	16 V
2368	4822 122 31316	100 pF	100 V
2369	4822 121 51522	22 nF	50 V
2370	5322 122 32056	220 pF	(only for /59)
2403	4822 124 22714	220 nF	25 V
2502	4822 124 41506	47 µF	16 V
2503	4822 121 41856	22 nF	100 V
2550	4822 122 31316	100 pF	100 V
2551	4822 122 31316	100 pF	100 V
2552	4822 121 41856	22 nF	100 V
2553	4822 121 41856	22 nF	100 V
2554	4822 121 41856	22 nF	100 V
2555	4822 122 30094	220 pF	100 V
2556	4822 122 30094	220 pF	100 V
2557	4822 121 42472	10 nF	50 V
2601	4822 124 22799	1 µF	63 V (only for OSD)
2602	4822 121 41856	22 nF	50 V (only for OSD)
2603	4822 121 41856	22 nF	50 V (only for OSD)
2604	5322 121 42386	100 nF	50 V (only for OSD)
2605	4822 124 41506	47 µF	16 V (only for OSD)
2606	5322 121 42386	100 nF	50 V (only for OSD)
2607	4822 122 31072	47 pF	(only for OSD)
2608	5322 122 32143	22 pF	(only for OSD)
2609	5322 122 32072	33 pF	(only for OSD)
2610	4822 125 50394	TRIMMER 4,5-20 pF (only for OSD)	
2612	5322 121 42386	100 nF	50 V (only for OSD)
2613	4822 124 41506	47 µF	16 V (only for OSD)
2614	4822 124 41506	47 µF	16 V (only for OSD)
2615	4822 121 41856	22 nF	50 V (only for OSD)
2801	4822 122 30103	22 nF	63 V
2908	4822 124 22426	100 µF	16 V
2951	4822 124 41588	4,7 µF	25 V

RESISTORS

3001	4822 116 52204	1 kΩ	
3002	4822 111 30492	2,2 Ω	
3003	4822 111 30492	2,2 Ω	
3004	4822 116 52233	10 kΩ	
3005	4822 116 52256	2.2 kΩ	
3006	4822 116 52233	10 kΩ	
3007	4822 116 52204	1 kΩ	
3008	4822 116 52233	10 kΩ	
3009	4822 116 52195	47 Ω	
3010	4822 116 52233	10 kΩ	
3011	4822 116 52283	4.7 kΩ	
3012	4822 116 52233	10 kΩ	
3013	4822 116 52796	4.3 kΩ	
3014	4822 116 52204	1 kΩ	
3015	4822 116 52204	1 kΩ	
3016	4822 116 52204	1 kΩ	
3017	4822 100 11517	200 Ω	
3018	4822 116 52284	47 kΩ	
3020	4822 116 52175	100 Ω	
3021	4822 116 52175	100 Ω	
3022	4822 116 52175	100 Ω	
3023	4822 116 52283	4.7 kΩ	
3039	4822 101 11034	22 kΩ	
3041	4822 116 52215	220 Ω	
3042	4822 116 52233	10 kΩ	
3043	4822 116 52291	56 kΩ	
3044	4822 116 52285	470 kΩ	
3045	4822 116 52291	56 kΩ	
3046	4822 116 52285	470 kΩ	
3056	4822 116 52224	470 Ω	
3060	4822 116 52217	270 Ω	
3070	4822 116 52233	10 kΩ	
3071	4822 116 52204	1 kΩ	
3072	4822 116 52233	10 kΩ	
3073	4822 116 52277	39 kΩ	
3074	4822 116 52759	10 kΩ	
3075	4822 116 52244	15 kΩ	
3076	4822 116 80693	27 kΩ	
3077	4822 116 80402	620 kΩ	
3081	4822 116 52224	470 Ω	
3082	4822 116 52175	100 Ω	
3095	4822 116 52257	22 kΩ	
3102	4822 116 52283	4.7 kΩ	
3103	4822 116 52233	10 kΩ	
3104	4822 116 52234	100 kΩ	
3105	4822 116 52233	10 kΩ	
3106	4822 116 52234	100 kΩ	
3107	4822 116 52284	47 kΩ	
3108	4822 100 11413	22 kΩ	
3110	4822 116 52215	220 Ω	
3111	4822 116 52215	220 Ω	
3112	4822 116 52175	100 Ω	
3113	4822 116 52175	100 Ω	
3114	4822 116 52289	5.6 kΩ	
3115	4822 116 52283	4.7 kΩ	
3118	4822 116 52204	1 kΩ	
3124	4822 116 52251	18 kΩ	
3125	4822 116 52233	10 kΩ	
3128	4822 116 52257	22 kΩ	
3129	4822 116 52233	10 kΩ	
3140	4822 116 52283	4.7 kΩ	
3141	4822 116 52249	1.8 kΩ	
3142	4822 116 52256	2.2 kΩ	
3143	4822 116 52228	680 Ω	
3145	4822 116 52283	4.7 kΩ	
3146	4822 116 52276	3.9 kΩ	
3147	4822 116 52233	10 kΩ	
3148	4822 116 52233	10 kΩ	
3149	4822 116 52276	3.9 kΩ	
3157	4822 116 52283	4.7 kΩ	
3158	4822 116 52283	4.7 kΩ	
3160	4822 116 52283	4.7 kΩ	
3161	4822 116 52283	4.7 kΩ	
3162	4822 116 52233	10 kΩ	
3163	4822 116 52233	10 kΩ	
3164	4822 116 52256	2.2 kΩ	
3165	4822 116 52276	3.9 kΩ	
3166	4822 116 52263	2.7 kΩ	
3180	4822 116 52256	2.2 kΩ	(not for OSD)
3181	4822 116 52217	270 Ω	(not for OSD)
3182	4822 116 52211	150 Ω	(not for OSD)
3183	4822 116 52222	390 Ω	(not for OSD)
3184	4822 116 52197	56 Ω	
3190	4822 116 52228	680 Ω	
3201	4822 116 52238	12 kΩ	
3202	4822 116 81839	390 kΩ	
3203	4822 116 52224	470 Ω	
3204	4822 116 52235	1 MΩ	
3205	4822 116 52234	100 kΩ	
3206	4822 116 52234	100 kΩ	
3207	4822 116 52284	47 kΩ	
3208	4822 116 52204	1 kΩ	
3209	4822 116 52233	10 kΩ	
3210	4822 116 52234	100 kΩ	

CONNECTORS

4822 267 50724	Connector 14 FOLD

CRYSTALS

1752	4822 242 71222	12 MHz
1788	4822 242 70392	6 MHz
1800	4822 242 72367	13,875 MHz

CAPACITORS

2301	4822 121 51522	22 nF	50 V
2403	4822 122 32027	56 pF	100 V
2404	4822 121 51304	10 nF	50 V
2405	5322 121 42386	100 nF	63 V
2406	5322 121 42386	100 nF	63 V
2408	5322 121 42386	100 nF	63 V
2752	4822 122 33191	22 pF	50 V
2753	4822 122 33191	22 pF	50 V
2754	4822 124 41521	10 µF	50 V
2755	4822 124 41506	47 µF	16 V
2757	4822 124 22714	220 nF	25 V
2759	4822 121 51304	10 nF	50 V
2762	4822 122 31823	15 pF	100 V
2763	4822 122 30027	1 nF	100 V
2764	4822 122 32062	470 pF	100 V
2765	4822 121 51522	22 nF	50 V
2766	4822 122 30107	270 pF	100 V
2767	4822 122 31316	100 pF	100 V
2768	5322 122 32056	220 pF	100 V
2771	5322 122 32164	560 pF	100 V
2774	4822 124 22425	2,2 µF	50 V
2775	4822 124 22425	2,2 µF	50 V
2776	4822 124 22425	2,2 µF	50 V
2781	4822 121 51251	47 nF	50 V
2784	4822 121 51522	22 nF	50 V
2788	4822 122 30045	27 pF	100 V
2789	4822 124 22425	2,2 µF	50 V
2792	4822 121 51251	47 nF	50 V
2797	4822 122 31061	18 pF	100 V
2798	4822 121 41758	120 nF	100 V
2799	4822 121 41854	150 nF	63 V
2800	4822 122 31823	15 pF	100 V
2802	4822 122 30045	27 pF	100 V
2803	5322 121 42386	100 nF	63 V
2847	4822 124 41521	10 µF	25 V
2851	4822 121 51304	10 nF	50 V
2852	4822 121 51304	10 nF	50 V
2853	5322 121 42386	100 nF	63 V
2857	4822 121 51397	1 nF	50 V
2858	5322 121 42386	100 nF	63 V
2859	4822 122 31348	120 pF	100 V
2860	4822 121 51304	10 nF	50 V
2861	4822 122 30027	1 nF	100 V
2862	4822 121 51304	10 nF	50 V
2863	5322 121 42386	100 nF	63 V
2864	5322 121 42386	100 nF	63 V
2865	4822 121 51304	10 nF	50 V
2871	4822 121 42408	220 nF	63 V
2872	4822 121 51275	470 nF	63 V
2873	4822 124 41588	4,7 µF	25 V
2921	4822 121 51275	470 nF	63 V

RESISTORS

3508	4822 116 52258	220 kΩ
3510	4822 116 52204	1 kΩ
3511	4822 116 52303	8.2 kΩ
3512	4822 116 80174	2.2 kΩ
3516	4822 116 80173	10 kΩ
3517	4822 116 52238	12 kΩ
3518	4822 116 52284	47 kΩ
3519	4822 116 52215	220 Ω
3520	4822 116 80175	4.7 kΩ
3521	4822 116 52215	220 Ω
3522	4822 116 80175	4.7 kΩ
3762	4822 116 52215	220 Ω
3763	4822 116 52215	220 Ω
3764	4822 116 80175	4.7 kΩ
3765	4822 116 80175	4.7 kΩ
3771	4822 116 52204	1 kΩ
3777	4822 050 14301	430 Ω
3778	4822 050 14301	430 Ω
3779	4822 050 14301	430 Ω
3782	4822 116 80175	4.7 kΩ
3783	4822 116 80175	4.7 kΩ
3784	4822 116 80175	4.7 kΩ
3788	4822 116 52219	330 Ω
3789	4822 116 52217	270 Ω
3800	4822 116 52291	56 kΩ
3804	4822 116 80175	4.7 kΩ
3848	4822 116 52306	9.1 kΩ
3849	4822 116 52238	12 kΩ
3850	4822 116 80173	10 kΩ
3851	4822 116 52204	1 kΩ
3852	4822 116 52204	1 kΩ
3853	4822 116 52204	1 kΩ
3854	4822 116 52204	1 kΩ
3856	4822 116 80682	56 kΩ
3857	4822 116 52228	680 Ω
3858	4822 116 52204	1 kΩ
3859	4822 116 52211	150 Ω
3860	4822 116 80174	2.2 kΩ
3862	4822 116 52234	100 kΩ
3864	4822 116 52204	1 kΩ
3865	4822 116 52204	1 kΩ
3866	4822 116 52215	220 Ω
3871	4822 116 80174	2.2 kΩ
3873	4822 116 80173	10 kΩ
3875	4822 116 80174	2.2 kΩ
3920	4822 116 80174	2,2 kΩ
3921	4822 116 80175	4,7 kΩ
3922	4822 116 52238	12 kΩ
3876	4822 116 52234	100 kΩ
3923	4822 116 80175	4,7 kΩ
3924	4822 116 52303	8,2 kΩ
3925	4822 116 52249	1,8 kΩ
3926	4822 116 52228	680 Ω
3927	4822 116 52217	270 Ω
3928	4822 116 80173	10 kΩ

COILS

1900	4822 320 40186	Delay line
5600	4822 157 52286	
5700	4822 157 52265	
5750	4822 157 50961	
5770	4822 157 50961	
5800	4822 157 52224	
5801	4822 157 51999	

DIODES

6080	4822 130 30621	1N4148 (NSC)
6090	4822 130 30621	1N4148 (NSC)
6091	4822 130 30621	1N4148 (NSC)
6092	4822 130 30621	1N4148 (NSC)
6100	4822 130 30621	1N4148 (NSC)
6101	4822 130 34173	BZX79-B5V6
6783	4822 130 30621	1N4148 (NSC)

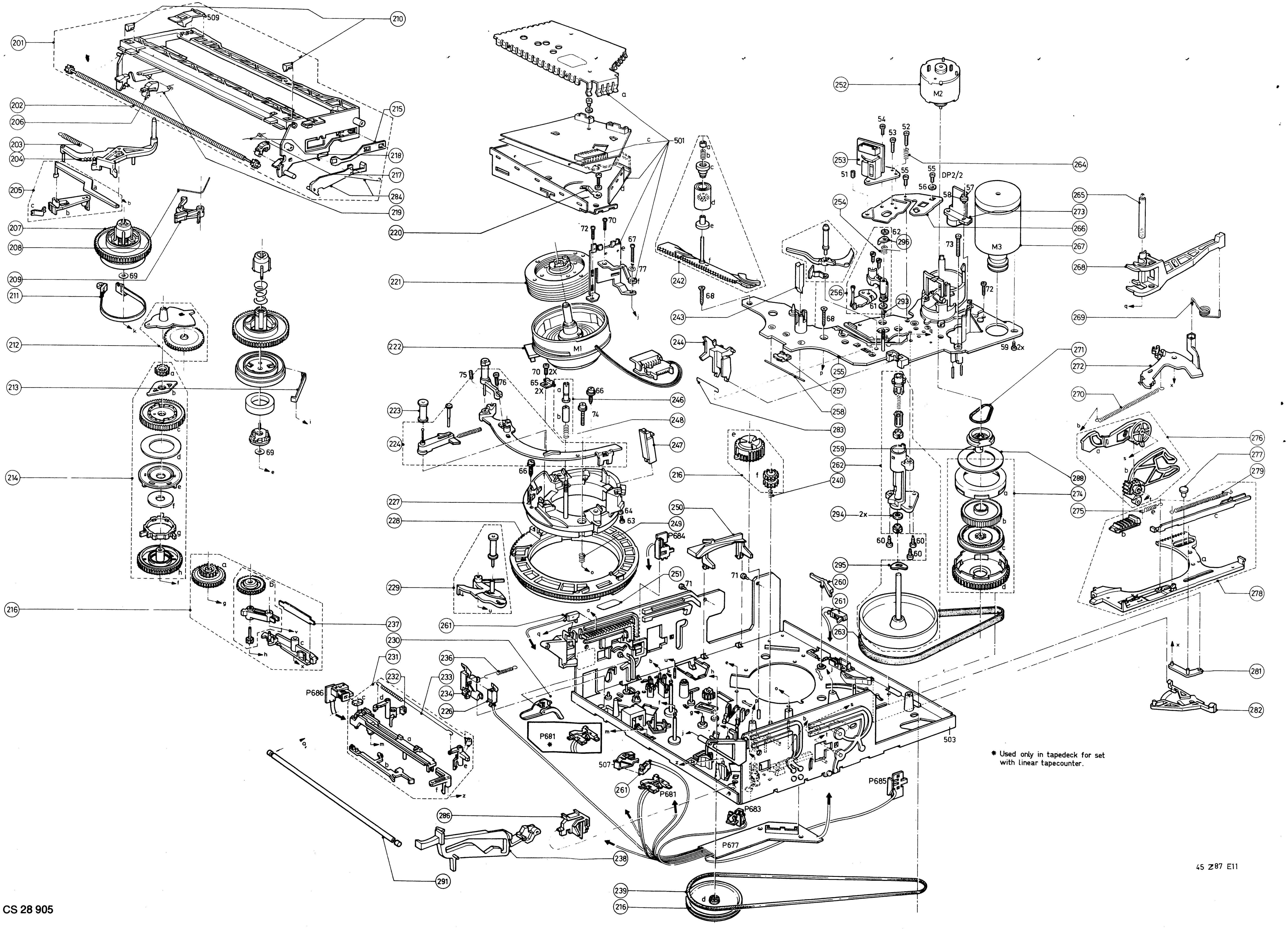
TRANSISTORS

7501	4822 130 40937	BC548B
7800	4822 130 40937	BC548B
7801	4822 130 40937	BC548B
7802	4822 130 60921	ESM2369
7803	4822 130 40937	BC548B
7810	4822 130 40937	BC548B
7811	4822 130 44197	BC558B
7812	4822 130 40937	BC548B
7813	4822 130 40937	BC548B

IC's

7750	5322 209 11318	MYP P8032
7751	4822 209 62492	ROM S63512C JSTXO-1P
7752	4822 209 61647	CD74HCT573E
7753	4822 209 62506	TC5564APL-15
7760	4822 209 73879	SAA5243P/E/M2
7770	4822 209 61805	HY6264P-15
7780	4822 209 72972	SAA5231/V6
7790	4822 209 71415	MC1377P
7795	5322 209 10576	TC4053BP

EXPLODED VIEW, OF THE TAPEDECK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* Used only in tapedeck for set with linear tapecounter.

45 Z87 E11

CS 28 905

FIXING MATERIALS

51	4822 502 13339	Screw
52	4822 502 11889	Screw M3 x 14
53	4822 502 11871	Screw Tilt
54	4822 502 11658	Screw M2 x 6
55	4822 502 13337	Screw M3 x 5
56	4822 502 11233	Washer 3,2 x 10 x 8,2
57	4822 530 70521	Washer 3,2 x 10 x 0,5
58	4822 502 11839	Screw Plastite 2,9 x 8
59	4822 502 11656	Screw M3 x 4
60	4822 502 11652	Screw M3 x 8
61	4822 532 11775	Disc
62	4822 505 10464	Nut M2,5
63	4822 502 11677	Screw M2 x 4
64	4822 466 11775	Washer
65	4822 502 82516	Locking plate
66	4822 502 13307	Srew M3 x 14 + Disc
67	4822 502 12034	Screw M3 x 20
68	4822 502 12035	Screw
69	4822 532 11529	Ring
70	4822 502 13341	Screw M2,5 x 8
71	4822 502 11064	Screw M3 x 6
72	4822 502 13336	Screw Plastite 2,9 x 12
73.	4822 502 13335	Screw
74	4822 502 13338	Screw M3 x 20
75	4822 502 12992	Screw
76	4822 502 10681	Screw
77	4822 530 80537	Spring washer 3,7X7

TAPE DECK PARTS

201	4822 691 20479	Lift
202	4822 535 80724	Spring + shaft
203	4822 492 32538	Spring
204	4822 403 53498	Lever
205	4822 522 31957	Lever
206	4822 403 53833	Cam-left
207	4822 528 10523	Reel disc
208	4822 492 32542	Spring
209	4822 403 52488	Counterforce-brake
210	4822 403 53821	Lift clamp
211	4822 466 40179	Brakeband
212	4822 528 70458	Idler wheel
213	4822 403 10257	Brake arm
214	4822 528 20428	Coupling
215	4822 492 63459	Spring
216	4822 522 31958	Gear wheel-set
217	4822 403 53822	Cam-right
218	4822 492 32812	Spring-left
219	4822 492 42021	Spring
220	4822 492 70386	Grounding spring
221	4822 691 20448	Head disc for IDM2/0, JDM2/0
	4822 691 20581	Head disc for JDM3/0
222	4822 361 21341	Head disc motor M1 (JDM 2/0)
	4822 361 21342	Head disc motor M1 (JDM 3/0)
223	4822 528 70642	Tape roller
224	4822 528 70641	180° roller assembly
226	4822 276 11561	Record protection switch
227	4822 532 11776	Scanner carrier
228	4822 532 21073	Threading ring
229	4822 403 53875	Lever
230	4822 403 53556	Block
231	4822 466 40181	Brake
232	4822 528 70638	Brake roller
233	4822 492 63258	Spring
234	4822 403 52485	Switch
236	4822 492 32539	Spring
237	4822 492 63262	Leafspring
238	4822 403 20238	Lift arm
239	4822 358 20265	Driving belt
240	4822 492 32811	Spring
242	4822 403 40205	Pressure roller assembly
243	4822 130 32923	Photo coupler
244	4822 403 52476	Bracket
246	4822 403 53845	Tape guide (exit)
247	4822 249 40252	Erase head
248	4822 492 51768	Spring
249	4822 492 51773	Spring
250	4822 403 53868	Guiding
251	4822 492 70385	Blade spring
252	4822 361 21242	Threading motor M2
253	4822 249 10352	Combi head
254	4822 492 41336	Spring
255	4822 466 82467	Top plate
256	4822 403 52474	Reverse lever
257	4822 466 81643	Block
258	4822 492 63254	Spring
259	4822 528 20677	Crank
260	4822 403 52949	Bracket
261	4822 271 30441	Micro switch
262	4822 535 92909	Capstan
263	4822 358 20244	Driving belt
264	4822 492 51663	Spring
265	4822 535 80725	Bushing
266	4822 466 81641	Plate
267	4822 361 20603	Combi motor M3
268	4822 403 20208	Pressure roller pressure lever
269	4822 492 41341	Spring
270	4822 492 32621	Spring
271	4822 358 30496	Driving belt
272	4822 403 30473	Control lever
273	4822 249 10329	Pick-up head
274	4822 522 32427	Differential gear
288	4822 532 52016	Felt ring on differential gear
275	4822 492 32541	Spring
276	4822 403 20206	Lift lever
277	4822 535 71098	Peg
278	4822 403 53862	Rack slider
279	4822 492 51909	Spring
281	4822 403 53867	Bracket
282	4822 462 40993	Cover
283	4822 403 53207	Spring
284	4822 403 53283	Locking arm Lift
286	4822 403 53284	Locking block
291	4822 535 92508	Rod
293	4822 492 52095	Compression spring
294	4822 530 50617	O-Ring
295	4822 492 52096	Spring washer
296	4822 403 53844	Guide

SMALL PRINTED PANELS

P677	4822 214 32706	
P681	4822 214 31212	WTA
P683	4822 214 31211	LED
P684	4822 214 31209	TAS
P685	4822 214 31209	TAE
P686	4822 214 31208	RBL
DP2/2	4822 214 32985	